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ON CERTAIN RECENT CASES.

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THE cases which I am about to record may not be exactly original or hitherto unknown, but they are certainly novel or uncommon; so I give them for what they may be considered worth.

The phases of *Actinomycosis* may be set down as being equally numerous with its situations; in fact, the situation often decides the form and appearance of this fungoid abnormality or tumour. It is not necessary here to discuss the actual presence or non-presence of the ray-fungus in every swelling or tumour supposed to be owing to this microphyte; suffice it to say that there have been, and will be, numerous errors in diagnosing Actinomycosis. At one time almost every abnormal growth was set down to Actinomycosis, and no doubt, during the *furore* of the initiatory discussions on this subject, a great many *nidi equarum* were discovered.

Be this as it may, however, these preliminary remarks lead me to observe that my first four cases, in my opinion, owed their existence to the presence of the ray-fungus.

1. My attention was recently called to a well-bred roan heifer, rising two years old, which had been observed for a week or two to be getting very stiff in her movements, or, as the owner said, "showing signs of founder." On calling at the farm I found matters as stated; heifer's back seemed to be immovable, and her legs were apparently disinclined for any sort of motion beyond merely shifting from one to another, and when down she was quite unwilling to get up. Temperature normal; off-side lung slightly irritable, but nothing very marked; skin unthrifty and stiff to move.

As the owner had purchased the heifer from an unhealthy stock, I merely adopted a palliative and waiting treatment, to give me

time to watch further developments. Ultimately, however, I saw it was of no use; so I advised the owner to slaughter the heifer, as she was in good condition, but would soon get worse, as she could now scarcely rise.

I was present at the slaughter, and found two tumours of microphytic origin—one in the lower part of the off-side lung, and the other in the *body* of the first dorsal vertebra. This latter tumour, "clyer," or whatever else it might be called, had almost done away with the *body* of that vertebra, which was reduced to a mere sheli, which shell was completely packed with this "tumour," and which also jutted out into the spinal canal, and by its presence and pressure there had *entirely flattened* the *spinal cord* at that part of its course. Here, in my opinion, was the cause of the unusual stiffness observed.

The pulmonary "clyer," or tumour, was embedded in the parenchyma of the lung, and would have escaped notice if I had not happened to remember the "irritation" detected in the off-side lung; and running my hand pretty firmly across the body of the lung, I felt a hard lump, which turned out to be another tumour, or "clyer," twice the size of the vertebral one; in this tumour I found at least a dozen degenerating points, containing thick, yellowish, cheesy matter.

Although I searched minutely, I could discover no other abnormality in the whole carcase of this heifer, which was good meat, and sold in London at a price which thoroughly satisfied the owner.

2. The *tumour* in this case occurred in rather a queer place—namely, the extreme point of a cow's tail! When my attention was first called to the abnormality, it was about the size of a goose's egg; but about a fortnight after, on calling to remove it, I found it about double the size and quite hard. I removed it about a month ago, and put a ligature on about an inch from the end of the stump, with orders to remove this ligature in twenty-four hours, and anoint the stump freely with a strong solution of carbolic acid in olive oil.

On cutting up this tumour, its nature was at once evident, even to the naked eye. It was very firm in consistence, and made up of a great many different divisions or colonies of the microphyte; the centres of the different colonies being shown by slight bulges or projections, of the usual almost imperceptible pinkish tinge and watery appearance. There were no points of degeneration or suppuration.

It is likely the fungus gained access in this case through some abrasion, scratch, or cut about the point of the tail; the cow stood next to a stone wall, and being vexed with *itch* at the root of the

tail, was continually whisking that organ in every direction, and thus had likely wounded its extremity on the rough wall.

3. At the same farm, a young calf had a slight sore between the claws (or divisions) of one of its fore feet, which was painful, but was relieved by two or three applications of some foot-rot ointment. The lameness disappeared, but in a short time the claws began to spread unnaturally wide, and a "big lump," as the owner said, began to grow between them. This lump, when I first saw it, was very ugly indeed; but it was quite hard and callous, and nearly painless. I scraped and cleaned it, and applied to it a strong solution of carbolic acid in olive oil; but still the lump (or tumour?) grew and became harder, and still the little creature's two claws got wider apart. On closer examination, I concluded I had another series of colonies of the ray-fungus, and accordingly scraped away at the enlargement, and applied daily a mixture of copper sulphate and burnt alum in fine powder. This has apparently checked the growth of the tumour, and already fully a third of the originally large fungoid mass has gone amissing, and the claws are approaching their normal position.

4. This case, which was a most remarkable one, occurred after the operation of cryptorchidotomy. The operator on this animal, which was a two-year-old colt, unfortunately cut down upon the wrong inguinal canal, and introducing a large hand and arm into the abdominal cavity, pulled out, not the wished-for testicle, but part of the bowels. This he repeated, and then returned the bowel and fastened up the scrotal wound with stitches and clams. Next day, by the operator's orders, the clams were removed, but the stitches were left as introduced; in a very short time thereafter a large mass of the bowels descended and got outside the scrotum; and when I appeared, I found a mass of prolapsed bowels hanging down as far as two feet below the scrotum. Here was a pretty presentation. The owner was in despair.

I stripped at once, and also made the owner do so, and with great difficulty got the bowels returned inside the scrotum, and readjusted the clams into the previous position. I then proceeded, *per rectum*, to remove the bowels from the scrotum to their proper *habitat*, the abdomen; and, owing to the most immensely distended state of the canal, this was accomplished with comparative ease. The intestine never again descended into the scrotum, and *locally* the poor brute seemed to make a remarkably good recovery; but mark the results intra-abdominally. The peritoneal coat of the bowels, after so much unnatural manipulation and exposure to external *infective material* of no doubt various kinds, took on a sort of sub-acute inflammation (Traumatic Peritonitis), and became attached to the liver, and at several different parts of intestines to

themselves. This was only discovered *post-mortem;* but all along after the operation, although the animal never went off his food, he never seemed to get any benefit from the latter, and became and remained nearly a walking skeleton. But, it may be asked, what has this got to do with Actinomycosis? Well, the owner having had the horse slaughtered about three weeks ago—nearly eight months after the operation—I eagerly took the opportunity of making a *post-mortem* inspection, and discovered quite an extensive series of colonies of the ray-fungus all around the side of the liver where the bowels had become attached to that organ. The fungus germs and spores had gained admission to the liver by means of the prolapsed part of the bowels, and had apparently thriven remarkably well in their hepatic soil. A good number of the actinomycotic growths or tumours (?) had become degenerated into cheesy-like matter of a yellowish colour, which might easily have been mistaken for tubercle in a like condition.

These *fungoid* or *fungus tumours* are a very interesting study, and although when degenerating or breaking up they may be mistaken for *tubercle*, I think it is quite as likely that the mistake may be, and often is, in the reverse direction. There is one very marked characteristic of these microphytic productions or tumours, and that is the extreme rarity or, in fact, entire absence of *external* ulceration or suppuration. If this were borne in mind in connection with the diagnosis of certain mouth affections, we might be spared many blunders. Bringing the abnormal material under the microscope, of course, settles all uncertainty; but the ordinary practitioner does not find it convenient to be running to that invaluable "aid to diagnosis" on every trifling occasion, and must depend on the use of his eyes or a good pocket object-glass. I am never without one of the latter "aids to diagnosis."

Congenital Contraction of the Back Tendons of Forelegs.—Most of my experience of this abnormality has been in calves and foals. I have, however, seen it in pigs and lambs, but never did anything for it in either of the latter two. Quite recently I was consulted about two calves with seriously contracted back tendons; in both patients both forelegs were affected. I tried the inunction of a softening liniment, and scobs with bandages. They were of no use, however, so I resolved to perform tenotomy. I was to operate on both calves, but failed to get any one to assist when I called to do so in the first calf; in the second case I operated, after the usual fashion, about midway between the fetlock and the knee. I made only one small incision in each leg, introducing a very small tenotomy knife flat-ways behind the tendon, until close upon the skin at the opposite side. I then turned my knife half round with the cutting edge to the back of the tendon, and made

an assistant straighten out the leg, while I allowed my knife to cut as the straightened tendon pressed upon it, until the little creature's leg was *rather more* than straight. I finished off with cold water bandages, and I am glad to say my little patient did remarkably well.

In operating, some practitioners (and I have done so myself) use a scalpel to make the introductory incision through the skin and across behind the tendon, and having withdrawn the scalpel, introduce a probe-pointed bistoury to complete the operation; but here I used the tenotomy knife alone, and as it was a very small one (supplied by Krohne and Sesemann), the incision through the skin was scarcely perceptible.

The generality of these contracted tendon cases in calves right themselves; but in order to get plenty of rubbing I almost always prescribe a softening liniment, with orders to rub it in with "much friction" and straightening out of the legs.

Encysted Vaginal Tumour.—A week or two ago I was asked to look at a small terrier-bitch, whose bladder or "inside," the owner was not sure which, was always coming out; but a "knowing" relative had said it was the "inside," and they had used their utmost endeavours to return it, but without success. On examination I found the tumour protruding from the vagina, and introducing my finger, discovered that it was a pear-shaped cyst about the size of a pigeon's egg, but rather more elongated, and attached by a very small pedicle to the roof of vagina about two inches in. As the owner was very much afraid of "blood-letting" of any sort, I applied a ligature to the pedicle, and called next day and removed the whole affair with my scissors. The contents of this cyst greatly resembled the sabulous deposits found in the bladders of horses.

Supra-Pharyngeal Abscesses.—These are analogous to the post-pharyngeal abscess in the human subject, and are pretty common amongst cattle, but more rare in horses. Lately I have operated on several in cattle with remarkable success. The initiatory signs of the presence of these abscesses may be external and internal, but more frequently only the latter. Lately I had a case in a young cow, where quite a large lump or tumour appeared (externally) in the parotid region, as long ago as August last; it was quite hard, so I recommended a pretty smart application of Ung. Hydrarg. Biniod., which the owner rubbed in on three different occasions. No difference, the lump remaining as hard as ever, and as I did not see fit to operate, she was left alone. A short time ago, however, things came to a crisis; the cow refused to eat, and could scarcely breathe, so the owner called for me and the butcher, both at once, as if I could do nothing the

butcher was to put the finishing stroke. I had not seen the cow for four months, so I was thoroughly astonished to find on examination that the lump in the parotid region was as hard as it was before. I at once declined to interfere with it, but volunteered to explore the throat, which the owner failed to see any necessity for; he consented, however, and with much difficulty the cow was properly secured and a wide mouth-iron introduced to keep her jaws apart. On exploration, I found the largest supra-pharyngeal abscess I have ever met with—and I have opened a good number—completely blocking up the whole throat, quite soft and fluctuating, and just ready for the knife, which I was not long in successfully introducing. Thick creamy pus escaped in great quantities from both the nostrils and the mouth, and relief was almost instantaneous; for the poor brute was eating turnips within half-an-hour after the operation.

I have operated on horses several times after the same fashion, and remember well doing so the second time in the same horse—with two years between the two operations. I have also more than once operated on these supra-pharyngeal abscesses from the outside, in both horses and cattle; but it is rather a risky proceeding, as you can never get fluctuation externally in these cases, and you have sometimes a great distance to cut before arriving at the abscess. I recollect operating on a very valuable three-year-old black horse, when I had to put the knife in nearly four inches before reaching pus, and even then it would not flow; so I introduced a metallic tube, through which the fluid escaped, and through which I finished by thoroughly washing out the cavity with a very weak solution of carbolic acid in tepid water. No recurrence took place.

In reference to the operation of *tenotomy*, I may remark that I have operated on a foal at the back of the pasterns, instead of midway between the fetlock and knee; but, for obvious reasons, this would be rather an awkward position in which to perform in bovines. The foal did well.

CASTRATION OF HORSES.

BY GEORGE T. PICKERING, F.R.C.V.S., YORK.

A LETTER in last month's Journal, signed by "V. S.," on the castration of horses, merits attention. Like himself, until three years ago I used to castrate with the cautery and clam. I think a good deal depends upon the way we have been taught when either pupils or assistants, as to the manner in which we operate, or the kind of operation. Some prefer the cautery, others the clams, some torsion, others scraping.

During the last three years I have used the ecraseur, and would not operate in any other way now, unless it were necessary to perform the covered operation.

I don't think it necessary to go into any of the preliminaries with regard to fitness of animals for operation, time, etc.

I prefer cutting the colt either standing or secured on the near side; I find either of these ways is preferable to casting the animal, securing him, and keeping him lying on his back. When in this position, blood, etc., gets into the scrotum, and sometimes sets up a certain amount of irritation, swelling, etc., and sometimes abscess will form. I fix the rope before casting, in the ordinary way. When the colt is down, I secure the off hind and fore leg, by fastening them together; the rope from the near side is brought underneath the colt, and kept tight, then this rope and the rope from the off-side are passed round the off-fore and hind legs, and held by one of the men.

The scrotum is well exposed, the testicles are generally both in sight, and no difficulty is met with in getting hold of them, as is sometimes the case when the colt is secured on his back.

Taking firm hold of the scrotum, and making it tense over both testicles, cut down on the right one first. I put my finger through below the epididymis and give it to an assistant to hold; and I do the same with the other. I then pass the chain of the ecraseur over both vascular and non-vascular parts, a little above the epididymis. The screw is now turned quickly until it becomes tense, then it is worked very slowly indeed. Sometimes there is a little tissue left in the ecraseur; this I carefully scrape with a knife until the cord is released. The parts are sponged with a little water and soluble phenyle, and are subsequently smeared over with a little soluble phenyle and olive oil. The ropes are unfastened and the colt is allowed to get up.

With regard to securing the colt on his side instead of on his back, the following are the advantages:—

1. More easily secured.
2. Less likely to injure himself, the operator, or those assisting.
3. Testicles more easily secured.
4. Blood, dirt, etc., not so likely to get into the peritoneal cavity.
5. More easily unfastened, and with less risk.

With regard to the ecraseur, I prefer using it to any other instruments employed in castrating.

I castrated between forty and fifty colts last year, and did not require to see one twice; they all did well. Two were supposed "rigs," rising five years old; they had been cast two or three times previously, but the operator could not reach the testicles, so he had to leave them.

I have castrated colts, bulls, calves, and boars with the ecraseur, and prefer it for all these animals.

Of course, I have the ecraseur, knife, and hands well disinfected before operating.

I prefer a field to any other place. I think by securing the colt on his side, and using the ecraseur, there will be no fear of any abscesses forming in the groin.

CASE OF CONCUSSION OF THE BRAIN IN A MULE.

BY J. A. NUNN, F.R.C.V.S., F.R.G.S., ARMY VETERINARY DEPARTMENT, CHIN LUSHAI EXPEDITION.

CEREBRAL injuries being somewhat rare in veterinary practice, may perhaps render these brief notes of some interest. The animal in question, an aged transport mule, was proceeding with the usual convoy to the front, when he slipped and fell off the narrow mountain path, down a steep bank about forty feet. He had a load of 160 lbs. on his back at the time, and pitched right on his head into a clump of bamboos. With some little difficulty he was brought up to the road again and walked into camp, seemingly but little the worse. I saw him about eighteen hours after the accident, on my way up to the front, and I was informed by the native salootrie in charge that about six hours after the fall the animal appeared suddenly to become giddy and tumbled on the ground. He was with difficulty raised, when he remained standing in the same condition as I saw him. The fore limbs were planted somewhat wide apart, and to the front; the head was quite down, the nose almost touching the ground, and drawn round to the right. The upper eyelids were pendulous, half closing the eyes; the pupils widely dilated, and almost insensible to light, scarcely any contraction taking place when a ray of sunlight was reflected into them with a looking-glass. Pulse at sub-maxillary artery laboured, the artery appearing very full under the finger, and about thirty-two beats per minute. The respirations were entirely abdominal, with the peculiar double lift in the flank of "broken wind," and loud stertorous snoring, that could be heard several yards off. There was no case of fracture to be detected about the cranium, only a small abrasion over the frontal bone. On my return journey, the "salootrie" told me the animal had died about twenty-four hours after the accident, and that, on opening the cranium, he had found a large clot of blood on the left side of the base of the brain, but no fracture of any of the bones of the skull. Unfortunately, he had not kept the specimen, but the man has a good knowledge of anatomy, being a graduate of the Lahore Veterinary School; and

I have no reason to doubt that he described what he saw. In all probability the shock of the fall partially ruptured the coats of one of the arteries at the base of the brain, and which, by the pressure of the blood, gave way later, at the time that the animal was seen to stagger and fall.

INFLAMMATION OF THE SUBSTANCE OF THE HEART (CARDITIS, OR MYO-CARDITIS) IN TWO THOROUGHBRED FOALS, AGED RESPECTIVELY TWO AND THREE DAYS.

BY MR. J. BRODIE GRESSWELL, F.R.C.V.S., SOUTH LINCOLNSHIRE.

On the morning of March 21st, I was asked to attend professionally a thoroughbred foal belonging to a well-known breeder of thoroughbred horses in this district. I found the foal to be suffering from what I diagnosed to be inflammation of the heart. The symptoms were as follows: violent palpitation of the heart, the pulse full and bounding, but not irregular; in number 140. The temperature was 104·5°, and the breathing rapid and laborious. Both this foal and another which had been attacked in a few hours, and died the night before, appeared to suffer pain over the region of the heart on the left side.

I made a careful *post-mortem* examination of the foal which had died, and append the following particulars: The tissue of the ventricles was swollen, abnormally friable, and of a deep reddish colour, excepting patches of deeper stained tissue and many blood extravasations. These latter were most numerous under the visceral layer of the pericardium around the base of the heart. The parietal pericardium and the endocardium were apparently quite healthy. The liver was somewhat friable, and the lungs were slightly congested. All the other organs were healthy.

"ANTHRAX AND COTTON CAKE."

BY JOHN BRETT, M.R.C.V.S., MANSFIELD, NOTTS.

Any information regarding the growth and cultivation of seeds used in the manufacture of foods for animals, must always be instructive to veterinarians.

Mr. Littlewood's interesting remarks on the harvesting of cotton seed, showing the very small chance of infection by the bacillus of Anthrax, brings to my mind a fact that occurred in 1883, which might possibly be a means of infecting food with the germs of disease.

On one of the largest railway systems in the country, a truck containing a two-ton lot of cotton cake was filled up with skins and conveyed to its destination, without any separation between the two—in fact, the latter was thrown against and heaped upon the cake in such a manner that infection was certain if present. It was just at the time, if I remember aright, when a serious outbreak of Foot-and-Mouth disease occurred in the Midlands, no trace of the origin of which could be ascertained at the time. Surely the purchaser would be quite justified, in such a case, in refusing the cake, and the vendor in throwing it on to the hands of the company. All trucks carrying food for cattle should by law be disinfected before or after use, or kept solely for that purpose.

Referring to the "uses and abuses of cake," none is so open to admixture by the unscrupulous manufacturer as "common cotton cake" (undecorticated).

During the last two years I have had several samples sent for examination. Instead of 25 per cent. of woody fibre at the most some samples would not have stopped at fifty; as well as the seed being damaged by water or heated before or after manufacture, and rendered quite unfit for food. It was evident that the husks from the decorticated cake had been used along with a small quantity of fresh seed to make up the "common" cake. Damage by water or heating is not so easily detected in the "common cake" as in the decorticated; in the latter any deleterious changes are shown by the alteration in colour. The best makes of decorticated cake are of a good sulphur-yellow hue; any marked deepening in shade should be treated with suspicion. Sea, water is the principal cause of damage in this variety.

As a food, the two kinds are not comparable. The analysis of undecorticated given in Mr. Hutton's article in the VETERINARY JOURNAL for January is incorrect. The best makes will not average more than 6 per cent. of oil, and not 72, as there stated; a glance at the column of figures will show the error. Thirty shillings is about the difference in price between the two sorts. The quantity of woody fibre alone almost brings up the cost of the undecorticated to the decorticated. Neither are suitable foods for young stock, though frequently used. The former is often injurious. Gastro and Muco Enteritis are the diseases principally following its use, especially in cold and wet springs. It is generally supposed to be of a constipating nature, but the reverse is very frequently the case; the large amount of woody fibre, in the form of a sharp husk, causing irritation of the mucous lining of the bowel, hypersecretion and profuse diarrhœa; this is not easily checked in sheep, and often proves fatal before deviation from

health is noticed. This is especially the case when given to ewes suckling lambs in the late winter and early months of spring. The losses from this cause alone are considerable on some farms.

Rape cake is quite unfitted for any kind of stock, and should be used only as a fertilizer. It is applied in this county as a manure for barley and roots, and is believed to be destructive to wire-worm. A careful perusal of the reports of the chemical committee in the Royal Agricultural Society's Journals will amply repay the time expended. The impositions practised by some manufacturers of cattle foods is only equalled by the indifference shown by farmers generally, in matters so much affecting their welfare.

VARIOLA EQUINA (HORSE-POX).

BY FRED. C. MAHON, M.R.C.V.S., SOUTHREPPS, NORFOLK.

Of recent date articles have been adduced relative to Horse-pox, a disease denied by one of our profession (quoted by Professor Walley, *Veterinary Record*), as not being a disease met with in England, though taught so by Professor Walley, the late Professor W. Robertson, and held by many as being one of the "Eruptive Fevers of Equines," calls forth these remarks from notes taken of a case it was not only my good fortune to witness, but to have under observation and medical treatment from the commencement of the attack to its decline and final restoration to health. So I can speak of it, and broadly too, with regard to the many points of ætiology bearing on it.

It is a specific, mild, or intermittent fever, having, in addition, an eruption appearing on the skin and visible mucous membranes, the result of the entrance into the system of a specific and palpable animal poison, which, after a period of latency, passes through the distinct and definite stages of fever, papular, vesicular, and pustular eruption, to be followed by decline.

The majority of observers state that "Equine Variola is only propagated from equines" to "equines," or from the horse to other animals by direct contact. Others, especially American authorities, state that, in their experience, the contagion appears to be volatile as well as fixed, and that it is transmissible by cohabitation; this is in accordance with what is known to occur in connection with the variolæ in the other of our domesticated animals.

In the transmission of the virus of the disease, where the specific lesions are situated on the head and extremities, parts of the animal most constantly in contact with the fodder or litter, we

may comprehend how readily a healthy animal, when placed where the diseased have previously been located, will become contaminated. Placed in direct contact, either during work, or in the stable, or at pasture, there is little difficulty in the transmission of this disease.

The infective material, most probably the saliva, having mingled with it the lymph from the vesicles, or secretions from the sores on the limbs, may be brought into contact with the body, or placed upon the mucous membranes, or on some abraded surface (cutaneous), and modifications of the same.

The life of the animal, food, physical constitution, etc., also indicate that the individual susceptibility of different animals of the same species varies pretty considerably.

By inoculation, the incubatory stage has been proved to be eight days; the incubation stage in most cases is irregular and uncertain, and as a rule longer.

In specific eruptive diseases and the contagious dermatoses, witness *Glanders*, the incubation stage is proved as early as the fourteenth day by artificial inoculation, and death in average cases is from twenty to thirty days.

According to Continental observers, all domesticated animals are subject to "Variola." The disease is of the class "Exanthemata," being distinguished by (*a*) febrile stage, (*b*) followed by a dermic eruption in progressive degree and intensity, as papules, vesicles (umbilicated); (*c*) pustules, which, becoming confluent, apparently undoubtedly commence the affection, giving rise to increased state of fever, admittance of external agencies, microorganisms, chemical, atmospheric, and telluric, foreign particles, gases, etc. Defective hygienic arrangements producing debilitated condition of health, after recovery from other fevers, naturally when such have existed, proving highly deleterious to many systems, delaying progress toward decline and convalescence.

The eruptions of "Variola Equina" are not protracted, and having once appeared, to continue again like Chiber (Indian dermic affection, Pemphigus), R. W. Burke, A.V.D., India (*vide* Journals, 1887, '8, '9).

In Herpes the vesicles do not burst as a rule, the contents became opaque, and are absorbed equally by rupture, and desiccating are converted into brownish (light) scabs.

In the majority of cases the vesicles in Herpes last about eight days; in *Chiber*, as soon as formed, or return shortly afterwards, and frequently escape detection.

In page 441 of the *Veterinarian* for 1884 is described a case identical in symptomatology, etc., with the one now under consideration, relative to the eruptions in the mouth, as compared

with the body and extremities. In the mouth they were vesicular and papular, elsewhere papular, umbilicated and discrete.

The eruptions in both cases were not necessarily situated on the skin of the nostril, but were also over the neck and body. They were not of the nature of "Farcy-buds," or the enlarged lymphatic glandular nature pertaining to this disease. Confounded with "Equine Variola" is a disease described by Friedbergher and Frohner as Horse-pox, alluded to by R. W. Burke, A.V.D., as in reality the disease confounded with "Equine Variola," viz., contagious Impetigo, an outbreak of which I personally met with among a number of omnibus horses in 1887, which were subjected to overcrowding, bad hygienic and dietetic arrangements, over-work, etc., etc. It appeared to be identical with an outbreak recorded by R. W. Burke, in 1883, as occurring among a number of artillery horses in India. The eruption was localised, no constitutional disturbance was noticeable, nothing but slight itching and the discrete eruption was noticed; in some this eruption was very superficial, and did not appear to affect the dermis or sub-dermal structures.

The vesicles generally contained serosity, though in a few cases they advanced to the pustular stage and crusted; the removal of the crusts was accelerated by the animals' rubbing themselves, etc.; a bare patch, with an even shining surface, of a dark-brownish colour, was left. Average period of duration, sixteen days; three cases ran on to nineteen days, this being probably exceptional.

Local treatment by Gly. acid. carb., acid. hydrocyanic dil., ung. benz. co., liquor arsenicalis in drinking water, cooling diet and pot. bicarb. in bran-mashes, alternated with pot. bicarb. et acid. salicylic, proving of signal benefit here.

The majority of cases were affected only on the body; in a few, however, the eruption on the body extended as far forward as the ears and neck.

Isolation prevented the spread to others in the same stable, and change of diet from maize and chaff to carrots, linseed, and bran, with allowance of green food (clover) appeared to exert a beneficial influence, besides being readily partaken of.

The administration of mag. sulph., followed by diuretics and tonics, quite restored the animals to a state of health compatible with the severe demands required of them.

I examined the blood taken from jugular in two cases, by way of experiment, and found broken-down red corpuscles, scattered here and there in the hæmal stream, blood paler than normal, with profusion of granular bodies scattered through the field of the microscope.

In the discharges from the skin, I found in a few cases, *Bacterium septicus* and micrococci of various kinds, forming zooglea masses, with a few chains, but as these were not present in all cases, I am of opinion that they were accidental agents.

According to *Klein*, a micrococcus (streptococcus) is constantly present in human Vaccine, corresponding to a streptococcus isolated by Guttmann, and which he regarded as the "Vaccinia streptococcus."

THE BACILLUS OF MALIGNANT ŒDEMA.

BY R. W. BURKE, F.R.C.V.S., ATHLONE.

VERY old writers generally referred to the Anthrax bacillus when describing the bacillus of Malignant Œdema, but nobody ever dreams of making such a mistake in the present day, let us hope.

At a recent address which was given at the Midland Veterinary Medical Association, Professor McFadyean is reported to have said, that "that organism—the bacillus of Malignant Œdema—is pathogenic to some of the lower animals, though the ox seems to have an absolute immunity from it. It is found extravascular for the most part, it is a long serpent-like thing, and it is mobile." I endorse much of what is here said, while I join issue with much that is supposed.

In the first connection, I wish to distinguish more correctly, if I can, the difference between the bacillus anthracis and the bacillus of Malignant Œdema. (*a*) The Anthrax bacillus, we all know, when stained, undergoes a change in appearance, *i.e.*, from single rods it is seen to be made up of three or four or more short segments with intervening septa, the latter remaining unstained. In well-stained specimens the ends of these segments appear to be somewhat concave towards the centre, which is characteristic of Anthrax bacilli. (*b*) The bacillus of Malignant Œdema is round, oval, pointed, and segmented; it may be of various sizes and shapes, single or united. When united, it appears dumb-bell shaped or forms into shorter or longer chains, having separate or fixed segments, the ends of which are round, oval, pointed, or straight. Sometimes the segments are dissevered by pressure of the cover-glass, etc., forming separate, distinct bodies, or small clusters. They are extravascular for the most part, *if not entirely;* for they may be found in the serosity by puncturing the skin; while I have not been able to trace any, so far, in the blood. They are freely mobile when examined in the effused fluid taken from the animal and placed fresh on the slide. The long "serpent-like" appearance sometimes caused by undue constriction of either extremity, is only one form presented by this bacillus, as we have noted.

My opinion is not in harmony with the clinical experience of Professor McFadyean, when he says that "the ox seems to have an absolute immunity from it." I should here remark, for general information, that an outbreak in Government cattle at Allahabad during 1886, and which was mistaken for Anthrax, was shown by the writer to be one of Malignant Œdema, in which the presence of the *bacillus œdematis* was demonstrated by the microscope. The illustration of this bacillus may be found on the frontispiece of my work on "The Tropical Diseases of the Horse," 2nd edition, 1888. *Post mortem* examination of a number of cases of this disease in any outbreak is sufficient, in conjunction with microscopic aid, to distinguish it from Anthrax.

I have seen the same disease in the dog, in which it was characterised by the appearance of a large swelling of the throat and neck, the swelling being at first painful and tense, but rapidly becoming painless and crepitating. It was followed by sloughing of the throat, and was fatal. The same bacillus was found in the fluid punctured from the swelling as appears in the Malignant Œdema of cattle and other animals.

IMPROVED HOBBLES.

BY F. RAYMOND, F.R.C.V.S., ARMY VETERINARY DEPARTMENT, WOOLWICH.

For many months I have been experimenting with some new hobbles which Messrs. Arnold and Sons sent me, and as in some

important respects, they compare favourably with the old leather ones, the profession will doubtless like to hear about them. Those I am about to describe have been in constant use for nearly a year at the Royal Horse Infirmary (where many horses are cast),

and have given satisfaction. In the first place they are, as a whole, 4½ lbs. lighter that the leather hobbles; they do not require to be dressed with "dubbin" to keep them soft when the first stiffness has worn off. They also cling closely to the limbs, and never chafe the heels, as far as my experience goes.

The material employed is a combination of woven horse-hair, felt, and leather. Acting upon a suggestion of mine, Messrs.

Arnold have substituted a tested twisted chain for the old pattern, thereby preventing the kinking which is sometimes so annoying.

I have little doubt that these hobbles will answer in ordinary rough-and-tumble practice, but am curious to hear how they wear in India, where, owing to the dryness of the climate, the old leather hobbles get out of order unless well looked after.

Editorial.

THE SUPPRESSION OF RABIES IN THE UNITED KINGDOM.*

BY GEORGE FLEMING, C.B., LL.D., PRINCIPAL VETERINARY SURGEON TO THE ARMY.

FROM time immemorial, what is popularly known as "dog-madness" has excited a strange interest and created alarm among the people of those countries in which it manifests itself; and the surmises, discussions, and panics to which it gives rise in our own day, are but a continuation or repetition of those with which mankind, in Western regions at least, were more or less familiar centuries ago. Homer is by some authorities supposed to refer to it in the "Iliad," and Pausanias, in his "Travels in Greece," alluding to the story of Actæon, the son of Aristæus and Antonoë, who was killed by his hounds, thought the only foundation for the myth arose from the circumstance that the famous hunter was attacked by them when they were rabid—evidence of the dread which this canine disorder had generated thus early in the history of mankind. Aristotle alludes to it as "Lytta," but Celsus appears to have made a special study of it, especially as it affected man, and in whom the Greeks, he informs us, named it "Hudrophobian." He particularly insists upon the immediate and energetic treatment of the wound made by the mad dog, and mentions that the family of Psylli, as also that of Marii (Africans practising at Rome), enjoyed the special privilege of abstracting the poison by suction with the mouth. The sagacious precautions he recommends show not only that the disease was, for the time, well understood, but that it must have been somewhat prevalent, and that the danger and terror which accompanied it compelled the fathers of medicine to exercise their skill in devising prophylactic and remedial measures. Euripides, the Greek tragic poet, is reported to have suffered from the disease, from which he was rescued by bathing. Virgil and Ovid refer to it, Pliny devotes much attention to it, and dwells on its fatality and the superstitions then prevailing with regard to it. Indeed, the Greek and Roman physicians and veterinarians of the early centuries of our era have given, amongst them, an easily recognised and fairly accurate description of Rabies as manifested in the dog and mankind; but they say nothing of sanitary police measures, and they seem to have had in view merely its prevention in the person bitten, either by local treatment of the injury, and the

* From the *Nineteenth Century Magazine* for March.

administration of strange potions, or a cure by ridiculous nostrums when the always fatal disease became developed.

In our own country it is probable that Rabies has been present from very remote times, but the first mention I can find of its existence is at a comparatively late period, and then in such a way as to indicate that it appeared in so formidable a manner as to become memorable. This reference is to be found in the laws of Howel the Good, of Wales, which were revised about the year 1026 (A.D.), and in which, defining the worth of a "brock" or badger, it is stated that, "during the year there was a madness among the dogs, it (the badger) obtained the privilege of a sow." That the malady was a frequent and a serious one in England in those days, we also have conclusive evidence in certain Anglo-Saxon manuscripts which have been preserved to us, and which contain remedies and incantations wherewith to cure or exorcise it. In one of these, a Saxon "Herbarium," are a number of fantastic remedies for "bite, rend, or tear of mad dog;" and in another—a Læce or Leech-book—there are similar remedies for the same accident; while in another—the *Medicina de Quadrupedibus* of Sextus Placitus (in all probability a fictitious name)—there is a farrago of ridiculous recipes, and an allusion to the worm under the dog's tongue, which Pliny dilates upon, and which notion (that this is the cause of Rabies) is still entertained in this and other countries. Not only were remedies prescribed for the prevention of Hydrophobia in those who had been bitten—and in one of these the sodden head and liver of a mad dog were to be given to him who had been torn, and which "wonderfully healeth him"—but portions of the mad dog were given to cure Jaundice and Cancer in man.*

After the sixteenth century foreign writers on the disease become numerous,† but perhaps the earliest in this country to deal with it in a special manner is Thomas Spackman, "doctor of physick," who published "A Declaration of such grievous Accidents as commonly follow the Biting of Mad Dogges, together with the Cure thereof," in 1613. In this book there is a curious jumble of the opinions of the Greeks and Romans, and the superstitions and practices of the times in which the author lived, when Rabies was under consideration. In his preface he says:—

"Having collected out of many learned authors, sundry special notes and observations, showing what strange and cruell accidents doe usually or very often follow the bitings of madde dogges, and

* See "Leechdoms, Wortcunning, and Starcraft of Early England," vol. i.

† In my work on "Rabies and Hydrophobia" (London, 1872) allusion is made to all those who have treated of the malady, both in early and later times.

knowing that among us sometimes (though not so frequently as in hotter countries) this mischeife happens to the great danger both of man and beast: I am bould to present them (handled and disposed as they be) to the generall view (I hope) for publicke good. Our language (for ought I know) hath never yet said so much of this subject. . . . In the meantime, seeing this familiar animal, the Dog, is the servant of poore men, the delight of great men, and a companion of most men, to prevent inconveniences that may fall —*Pecori pecorisq magistro*—both to this kinde Cattell and to their loving Keeper, as also to prepare (if need require) a convenient remedie for so disastrous a mishap, I have thought good, thus (as I can) to forwarne their negligence that think slightly of such a wound, and to reforme their ignorance, that may be (when time is) to seeke for needfull help."

But nothing is said of sanitary police measures in this curious treatise, all the attention being directed to a *cure*.

And so it has continued up to quite recent days. Though the literature of the subject rapidly increased, and the progress of medicine was very marked, yet so far as preventive or curative measures are concerned, there is nothing worthy of note; and the disease, terrifying and fatal as in the old times, was, in the popular mind, still shrouded in mystery, which was further deepened by the superstitious notions entertained with regard to it, as well as by the religious rites devised by priestcraft (those pertaining to the keys of St. Hubert, for instance), and made acceptable by ignorance and fear.

From early in the thirteenth century there are recorded outbreaks of Rabies, and these increase in frequency as time goes on. In the eighteenth century they were very numerous and extensive, and were reported upon not only in Europe, but also in such distant countries as the West Indies, especially Barbadoes, Charlestown (Southern States of America), Boston, and other towns in North America, and Jamaica, Hispaniola, and the French West Indies generally, and in North and South America. In these outbreaks dogs and people were not the only sufferers, for the domesticated animals generally were infected, while wild creatures, such as wolves, foxes, bears, and boars, were not exempted. So alarming and universal was the pestilence among the dogs in Hispaniola (St. Domingo), that orders were given by the Government to destroy all of them in that country; and so effectually was the decree carried out, that the surface of the water in the harbour of Port-au-Prince was crowded with their dead bodies. In some of these places it appeared for the first time, being conveyed to them from those parts which were so severely visited by it. In this country, Scotland suffered much, especially Fife, in

1748, and many cattle and swine died from the effects of wounds inflicted by mad dogs. In 1759 and 1760 madness raged among dogs in London, in consequence, it was supposed, of a mild winter and early spring. "It first appeared in the borough of Southwark, and the consternation it caused diffused itself all over the cities of London and Westminster. The magistrates immediately issued a very prudent and judicious order for every person who kept dogs to confine them for a month within doors, and ordered their beadles and other officers to destroy all dogs found at large, with a reward of two shillings for each dog which should be killed." Great cruelty was the result of this bribe, and the most barbarous scenes were enacted by the brutal rabble, which in this way had a premium put upon their savage propensities. Moorfields was the burial place of all the animals so slaughtered; and we are informed that "no less than the bodies of thirty dead dogs were told in one day in the Tower Ditch, by a person of undoubted veracity, who was only casually passing by that way."* The outbreak appears to have continued until 1762.

In 1774 the disease was very general in England, and we find that in the early part of that year it was causing much alarm in Lancashire; so much so, that at a meeting of the parishioners of Eccles, near Manchester, it was unanimously agreed to strike off from the poor-rate all paupers who should keep dogs; they also decided to pay five shillings for every mad dog killed in their parish.†

It may be noted that in 1763, France, Italy, and Spain were invaded by the disorder. In Italy, in Asti, Alexandria, and other places, all dogs, no matter who their owners were, were killed by the authorities; while in Madrid it is stated that nine hundred were destroyed in one day.

In the present century Rabies has evidently become much more frequent than in the last, and has still further extended its geographical limits. In 1803 it showed itself for the first time in Peru, and caused great destruction and consternation; in one town alone, Ica, forty-two persons were bitten, and the majority of them died from Hydrophobia. All the dogs in Lima were destroyed by order of the Viceroy. It was imported into La Plata in 1806, by sporting dogs belonging to English officers, and it has continued there; in the same year it was very prevalent in England, and especially in London and its vicinity, and in the following year it visited Dover.

It also appeared for the first time in the Island of Mauritius in 1813; its introduction was ascribed to English dogs carried by a

* *The Gentleman's Magazine*, August, 1860. † *Ibid.*, June, 1774.

ship from the Bay of Bengal. In 1815 there was an extensive outbreak at Copenhagen; and in 1824 it was general in Sweden, Norway and Russia, extending itself to cats, foxes, wolves, and even to reindeer. In 1847 Malta was visited for the first time, it is surmised; in 1852 the town of Adalia in Turkey was invaded by a rabid wolf, which wounded 128 people and killed eighty-five sheep; many of the people died of Hydrophobia. The first case of Rabies in Hong-kong occurred in 1857 in an English blood-hound, which bit several people, of whom one subsequently died of the disease; it was witnessed in Canton in 1860; at Shanghai it occurred among English dogs in 1867, two Europeans who were wounded by them perishing from infection; at Chinkiang it was seen in 1869-70. I personally ascertained its existence in Tientsin, North China, in 1860.

The outbreaks on the continent of Europe, and in North America, have been very common for the last fifty years, and in this country some of them have been extremely extensive and persistent, causing much dread and heavy loss of human and animal life. In 1856 these outbreaks began to assume an alarming form. In that year it was common in Yorkshire, and people and deer died from inoculation by rabid dogs at Barnsley; in Berkshire many sheep died from Rabies, due to the bite of a mad lurcher. In Lancashire, in 1864, there was a severe outbreak, and so great were the apprehensions of injury that all stray dogs were destroyed; in June of that year upwards of one thousand had been killed in Liverpool alone. In the same year twelve people in England, and seven in Ireland, died of Hydrophobia; and in the following year Rabies prevailed to a very unusual extent in and around London, people and sheep being infected, while the deaths among people from Hydrophobia in England were nineteen. In 1866 it had assumed a formidable extension and virulency, especially in Lancashire. Thirty-six deaths from Hydrophobia in England were reported by the Registrar-General. Eleven of these were of persons in London, thirteen in Lancashire, three in Northumberland, two in Buckinghamshire, two in Durham, and one each in Kent, Hampshire, Staffordshire, Leicestershire, and Cheshire. In 1867 a "Metropolitan Streets Act" was passed for London; this enabled the police to seize all vagrant dogs. And in June, 1868, it was put in force, with the result that the number of cases of Hydrophobia soon became greatly diminished.

But the outbreak extended elsewhere. In Lancashire and Yorkshire in 1868 it was very severe, and the number of people and cattle bitten by mad dogs was causing great consternation and dread, while the mortality in man and beast was alarming. Gradually spreading, through the inertness or apathy of the local

authorities, in time, Derbyshire, Nottinghamshire, Cumberland, Durham, Rutland, and Sussex were invaded, and finally mad dogs and their ravages were chronicled as far north as Dundee, the Epizöoty continuing until 1873. During its prevalence, the Lyme (Cheshire) harriers were infected, and had to be destroyed, as were the Quorn and Albrighton packs, and the Durham county hounds. The destruction of cattle, sheep, horses, and pigs was very considerable; and the malady was becoming of such grave importance, that I deemed it my duty to direct public attention to its increasing danger to the community by publishing a monograph on it,* in which measures for its suppression were proposed, which, if they had been energetically carried out in the United Kingdom, would soon have completely extinguished it, and thus have saved many people from a painful death in the years which have intervened, as well as prevented the loss of valuable property in animals, discomfort and cruelty to dogs, and great annoyance to their owners. These measures I will allude to when considering how Rabies is to be got rid of; in the meantime, it may be remarked that the reason for this long-continued and wide-spread outbreak is to be found— as in all previous and subsequent ones— in the insufficiency of the sanitary police measures adopted in the different towns and districts; the late period at which they were introduced, and the irregular, and only too often, perfunctory manner in which they were applied; the absence of a proper and uniform sanitary organisation operating from a centre, to combat the spread of this and other contagious diseases of animals; and the general ignorance prevailing with regard to the symptoms and nature of this one in particular.

Since the above-mentioned outbreak, which was among the most extensive and long continued this country has experienced, Rabies has been on the increase, if we might judge by the annual mortality among people from Hydrophobia. Thus, according to the Registrar-General's returns for the sixteen years ending with 1863, the total number of deaths was 123, or a yearly average of eight. In the following six years there were ninety-three deaths, being an annual average of fifteen, or nearly twice as many as in the former period; but in 1885 the yearly average had increased to forty-five in England, a rise of nearly 300 per cent. So alarming, indeed, had the mortality become, that in this year a Committee of the House of Lords was appointed to investigate the cause or causes of the malady and its increase, and to propose measures for its suppression.

This increase in the cases of Hydrophobia in mankind, of course, corresponded with a greater development of the disease in dogs,

* "Rabies and Hydrophobia," London, 1872.

and its invasion of a greater extent of country. In 1870 only eight counties were reported as infected, but subsequently no fewer than thirty-three have been named as haunted by mad dogs. The spasmodic and disjointed efforts made to combat the disease were, nevertheless, sufficiently successful to demonstrate, in the most convincing manner, what would follow the application of common-sense measures devised with the view of getting rid of it altogether. Unfortunately, such measures were not introduced, and though the contagion was checked, and its extension limited, it has always been allowed to smoulder in a few centres, from which it could emerge whenever circumstances were favourable, and especially when the partially repressive regulations were rescinded. In the Annual Report of the Agricultural Department of the Privy Council for 1888 (page 16), we find the following significant remarks: "It is worthy of note that Rabies was practically limited to two areas in the country: one in which it is habitually existent, a district including the counties of Lancashire, Cheshire, Staffordshire, Derbyshire, and York (West Riding); the other comprising counties which are close to the metropolis, and including the metropolis, Middlesex, Essex, Sussex, and Kent. The total cases of Rabies were 176; of these 166 were divided between the two areas named. That the disease might have been extirpated in the two groups of counties to which it was confined, is hardly a matter for doubt; but without the alarm engendered by an extensive outbreak no restriction on the movement of dogs can be maintained, and we shall doubtless continue to repeat the system of checking the affection, and allowing it to spread again as soon as the excitement is allayed. A repetition of the repressive measures is likely to be required soon, as Rabies is steadily increasing in the metropolis and its vicinity, in the absence of any regulations."

It may be observed that, in consequence of the restrictions imposed in 1885, in which year there were twenty-five deaths in mankind from Hydrophobia in London alone, there were only nine in 1886; but as the measures were only enforced for twelve months, in 1887 Rabies again became prevalent in the metropolis and elsewhere, 497 cases being reported in that year. In 1888 restrictions were again resorted to, and the cases fell to 176; but in a brief space they were withdrawn, and the number of mad dogs reported jumped up to 339 in 1889. In the metropolis 330 dogs were killed by the police, and of these 123 were rabid. Seven persons died in London from Hydrophobia.

In considering this disease, human beings and dogs are usually only taken into account, and certainly it is sufficiently serious for them; but other creatures are also involved, and at times the loss

among them is heavy. Horses, cattle, sheep, and pigs are bitten by mad dogs, and sometimes perish from the effect in considerable numbers; even deer do not escape, and we have had two instances in recent times in which herds were nearly decimated—one in Richmond Park, the other at Ickworth, in Essex. In France, in 1887, there were 2,567 rabid dogs reported; and 426 domestic animals of various species bitten by them, and valued at £4,000, were destroyed or died because of the disease.

Apart from the economical losses which Rabies occasions, it must be looked at from a humanitarian and sanitary point of view; and in this double aspect no disorder affecting animals possesses nearly so much interest or importance. Hydrophobia, as Rabies is usually designated when it is transferred to man, is a most painful disease to those suffering from it, and most distressing to witness. Even when watching animals which are affected with Rabies, it is impossible to withhold pity and sympathy from them, because of their wretched condition; but the agonising symptoms exhibited by a human being, and especially if it be a child (as so often happens), make one feel that it would be better to be without dogs altogether rather than have our fellow-creatures exposed to such a terrible torture, from which recovery is impossible, and the excruciating pangs of which medicine can do but little to alleviate. When witnessing a person dying from Hydrophobia, one is inclined to sternly demand why mankind and animals should suffer and perish from it year after year, when it might, with trifling trouble, and at a small sacrifice, be stamped out entirely, and with a little care kept out of our country for ever.

There are three reasons for the existence of such a cruel and destructive disease in the United Kingdom: (1) A defective sanitary organisation for dealing with the contagious diseases of animals; (2) Ignorance and apathy on the part of the public; (3) A spurious sentiment of humanity with regard to dogs, which almost goes so far as to make these pseudo-humanitarians exclaim, "Perish mankind and all other creatures, but spare the dogs discomfort."

The third reason is perhaps the most serious, if we may judge from the present agitation against muzzling dogs to prevent the spread of Rabies; as it prevents the adoption of those measures upon which the extinction of the disease depends. And yet nothing could be more painfully ridiculous than this opposition to what is a most essential element in the suppression of an outbreak of this horrid disorder. In ancient Egypt the cat was worshipped; in modern England it is the dog. In Kensington Town Hall on the 22nd of December, 1886, a dog-worshipper was not ashamed to assert that "the dog is not only a noble and a beautiful animal,

but he is immortal—nay, divine!" Such a sentiment, one might venture to suggest, indicates a condition of mind bordering on insanity. It certainly is grossly spurious humanity; for those who oppose measures for combating Rabies are not only the enemies of their own species, but also of the dog and other animals, all of which they appear to be willing to sacrifice to a most dreadful death in order that they may indulge their selfish but erroneous whims. An animal of far more importance to mankind than the dog, the horse, is subjected to the greatest discomforts, fatigue, and even torture, in order to serve us and minister to our pleasures, and yet his misfortunes receive little, if any notice from the dog-worshippers. He is mutilated and deformed to meet the fashion; a severe bit is put into his mouth; a gag in the form of a bearing-rein is fastened on his head; his eyes are partially blindfolded; iron shoes are nailed on his hoofs; his tail is chopped off to such an extent that for the remainder of his life he must be tortured to madness by flies; and he is worked to the extremity of his strength to the last of his days—his toil and hardship increasing generally in proportion to his years—and yet with all this, those people who go into paroxysms of rage and threaten to turn out a Government which dares to ordain that their pampered, useless dogs shall wear an easy-fitting apparatus over the mouth, to prevent injury to people and canines at a critical time, have not a thought or a word for the greatest benefactor to man—the horse! On such people the responsibility for deaths from Hydrophobia, should be placed. To oppose the extinction of a disease which is dangerous to mankind should be considered a crime; to do this when animals are concerned is tantamount to cruelty.

That Rabies can be suppressed does not admit of a doubt. Its existence depends solely upon its contagious principle, and it cannot arise spontaneously under any conditions, any more than dogs themselves can. Eighteen years ago, through being unable to trace the origin of a case of Rabies which occurred under my personal observation at Rochester, Kent, I was of opinion that it might have a spontaneous origin; and this opinion, I may state, was held at that time by several of the leading veterinarians on the Continent (Bouley in France and Röll in Austria). But soon afterwards, on a more careful consideration of its geographical extent, and the result of sanitary police measures in different countries, I arrived at the conclusion that its maintenance was due to its contagium only, and that if this were destroyed there could be no more Rabies or Hydrophobia. This conclusion I have made known on every possible occasion.

It may also be asserted, that though many kinds of creatures can become infected, and may infect each other, yet the dog is the

original infector and the chief disseminator, the dissemination being effected by inoculation in nearly all cases by means of a bite. After inoculation, if it is to be effective, a variable period elapses before the signs of disease manifest themselves; this is the period of latency or incubation, and it may extend from a few weeks to many months, but in the great majority of cases it does not go beyond six months, though there are some recorded in which it has been longer. Twelve months should cover all cases, and therefore if dogs could be prevented from biting for that period in this country, and no dogs were allowed to enter it from other infected countries, the contagion must perish for lack of renewal, and the scourge would be no more seen or felt. What a blessing to mankind, dogs, and other animals this would be! Even the dog-worshippers might contrive to understand what a benefit it would confer upon their idol, if they would only consider the matter. There would then be no need for all those futile, because partial and temporary, measures which harass dog-owners and cause discomfort to dogs, while they have to be repeated incessantly. Nor would man look with grave and deserved suspicion, even amounting to dread, upon a devoted animal companion which he at present allows to be exposed to the risks of infection that will perchance destroy them both. Surely a few months of inconvenience are as nothing when compared with the advantages that would be obtained. Think of the children and adults who would be spared a torturing death in future years! Consider the perpetual abolition of the diabolical muzzle, ye cynophilists, and know that in the days to come dogs might bite and rend to their heart's content without being suspected or accused of madness, or any doubt be entertained as to the innocuousness of their saliva.

Such a consummation, devoutly to be wished, can be obtained by the enforcement, for about twelve months, of measures which sensible and humane people would not consider by any means onerous, and are certainly far from injurious, or even very annoying to dogs themselves. Such measures, however, should not be left to local authorities to devise or carry out as they might think fit, but be framed by and strictly executed under the direction of the Government, so as to ensure uniformity, regularity, and promptitude. Nothing can be more ridiculous, futile, or harassing than the present method of dealing with the disease, and it cannot be wondered at that angry protests are launched from every side against it. If a town, district, or county is infected, severe measures of repression are promulgated, and their enforcement is attended to by the police; but the adjoining regions are exempted. Consequently, it happens that while in a town or village on the borders of the proclaimed area all dogs are kept

rigidly muzzled and otherwise "coerced," in another town or village a few hundred yards away, but in another district or county, they are entirely free from restraint of any kind. Nay, it has happened recently that dogs in the Metropolitan district have been placed in rigid subjection, and their owners exposed to pains and penalties should they neglect to comply with the police orders, while, in the City of London, the dogs were at perfect liberty; and not long ago, I was informed that on one side of the City of Dublin dogs were muzzled, and on the other side they were not. This is making sanitary police a harassing burlesque. Mad dogs do not respect parish or county boundaries, and when we know that in their wandering fits they have been known to travel fifty or more miles, attacking people and animals as they trotted along, it need not be a matter for surprise that Rabies cannot always be confined to a certain region, or that people should complain of the useless hardship to which they are subjected. When Rabies is reported in a certain area, the suppressive measures ought to be applied over a wide surrounding zone, and directions for their execution should emanate from a central authority acting for the United Kingdom.

In this country we have had ample experiences of the tardy or perfunctory manner in which local authorities, in many instances, deal with the disease, and it would appear that in France matters are no better managed, but are perhaps even worse. From the last accessible report of the Minister of Agriculture—that for 1887—it would appear that in that year there was not a department free from Rabies. In each of thirty-one of these there were at least ten rabid dogs; seventeen departments had more than ten and less that twenty; twenty-six had more than twenty and less than fifty; nine had more than fifty and less than 100. In the Basses-Pyrénées there were 101, and in the Seine 642 cases. In France, the sanitary police measures applicable to Rabies are based on three principles: (1) The declaration of cases of Rabies, which alone gives authority to seek for animals which have been bitten by mad dogs; (2) The immediate destruction of all dogs and of all animals which have been so bitten; (3) The destruction of stray dogs, among which the malady is perpetuated.

Unfortunately, observes the Minister, these measures are not always applied with the rigour which such a disease demands. The owners of dogs will not declare the existence of the malady so long as they can dispense with doing so, and there are scarcely any of them who would voluntarily destroy their dogs if they were bitten or worried by rabid ones; the majority of them would rather shield their dogs from this capital measure, which is the most important of all those that have been devised for dealing with the scourge.

And neither do the agents of the authorities bring sufficient energy to bear in carrying out the sanitary prescriptions. The tribunals themselves also contribute to fetter the action of the sanitary service, by the extreme indulgence they manifest in the too rare instances in which delinquents are brought before them. In none of the departments is the order, which prescribes the slaughter of every dog not provided with a collar bearing the address of its owner, effectively carried out. These are the reasons, he adds, why among this wandering dog population without owners, homes, or supervision, Rabies is incessantly revivified; and they explain why every year witnesses an increase in the number of rabid dogs. The statistics of the Seine department are particularly instructive in this respect. In 1883, 182 rabid dogs were reported; in 1884 there were 301; in 1885, 518; in 1886, 604; in 1887, 644; and there were more than 500 during the first quarter of 1888. But, he remarks, it would be a great injustice to hold the authorities alone responsible for this state of affairs; on the contrary, a great share of the responsibility rests with the public, who, in consequence of an excessive tenderness for the canine species, resist the application of the most essential measures, and will only allow the authorities to act when some accident alarms them from the circumstances in which it occurs, or when some persons have become victims to the disease. Then only are they moved, and every one calls out for energetic action; but whenever the recollection of such occurrences becomes effaced, the dangers are forgotten, and then protests are heard against the cruelty inflicted upon dogs by the precautionary measures.

The Minister asserts that the legislative measures and the regulations, if properly enforced, are sufficient to ensure the extinction of Rabies in a very few years; and he remarks that the reports from the departments of Var and Loiret furnish a startling proof of this, and amply demonstrate that there is no need for new laws. The considerable extension of rabies which took place in the department of Var in 1884-5 was a memorable event. Then the Prefet showed energy, and the result was soon evident; for in 1886 in the whole department there were only six rabid dogs; in 1887 there were but four, and it was not certain whether even these were diseased, as there were afterwards no rabid animals in the villages through which they passed, though thirty dogs, with which they had been in contact, or were bitten by them, were destroyed as suspected. It might, therefore, be affirmed that Rabies was extinguished in this department which it had kept in a state of terror for two years. In Loiret there were twenty cases of Rabies during the first quarter of 1887; but the public became alarmed, energetic measures were resorted to, and during the month of August

there were only three mad dogs; from that time until the end of the year only one dog was killed. In the department of the Seine it was ordered that only dogs which were led or muzzled should be allowed in the public streets; and during the whole time that this measure was maintained the number of cases of Rabies progressively diminished, but a recrudescence of the malady took place immediately on the order being rescinded.

In every country in which Rabies has prevailed and in which the central authority has acted with energy, the disease has either been altogether extinguished or kept greatly in check; in the latter it has generally been introduced from without—an occurrence which continental states have great difficulty in guarding against. In Germany, for instance, it has been found impossible to get rid of the malady, because it is continually being introduced from adjacent countries—France, Austria, Poland, Holland, and Belgium. Yet in certain parts of Germany, where stringent regulations are in force, the disease is either very rare or quite unknown, where it was formerly very common and destructive. In Berlin, for instance, it is seldom seen, and in some provinces it has almost disappeared, while in others, again, it has been quite extinguished. The information from the Grand Duchy of Baden is very instructive and reliable with regard to the suppression of the disease. It would appear that in 1888 there were in the Duchy 33,277 dogs (of which 24,654 were males, and 8,631 were females). The increase in the dog-tax, which took place in 1876, was intended to diminish the number of dogs; but the diminution which followed did not continue for long, and the number in time regained its old standard. Owing, however, to the application of rigorous sanitary police measures, the cases of Rabies gradually decreased, and since 1884 it may be said to have entirely disappeared; for though in 1887 there was one case, it occurred in a dog which had been recently brought from Metz.

The following table will show the result of these measures up to 1888. It may here be noted that in a census of the domestic animals in Baden, made on the 3rd of December, 1887, there were 28,303 dogs (of which 20,832 were males and 7,471 females). From 1878 to 1881, there was a gradual decrease in the number, owing to the imposition of the higher tax; but there was a notable increase again from 1882 up to 1888—in one year alone, from 1887 to 1888, it will be observed that there was an augmentation of nearly 5,000.

In proportion to the human population, it would appear that in 1887 there were 7,365 dogs for the communes containing 4,000 people, and 20,938 for those with less than 40,000 inhabitants. This circumstance is worthy of consideration in view of getting

rid of the disease; for in Baden, in order to prevent the propagation of Rabies, which occurs so readily in large centres, the dog-tax was fixed at sixteen marks (sixteen shillings) annually for each dog in towns, while it was only eight marks in those localities containing less than 4,000 inhabitants.

Years	Affected with Rabies.						
	Mankind.	Dogs	Horses	Cattle	Sheep	Pigs	Cats
Under the old tax:							
1871	—	18	—	—	—	—	1
1872	2	37	1	1	—	—	—
1873	—	27	3	2	—	1	—
1874	—	50	—	2	—	2	—
1875	5	43	2	—	—	2	—
Under the high tax and sanitary police regulations:							
1876	—	28	2	1	—	—	—
1877	—	3	—	—	—	—	—
1878	—	4	—	—	—	—	—
1879	—	2	—	—	—	—	—
1880	—	2	—	—	—	—	—
1881	—	2	—	—	—	—	—
1882	—	3	—	—	—	—	—
1883	—	2	—	—	—	—	—
1884	—	2	—	—	—	—	—
1885	—	—	—	—	—	—	—
1886	—	—	—	—	—	—	—
1887	—	1*	—	1	—	—	—
1888	—	—	—	—	—	—	—

* Brought from Metz.

So that in this part of Germany Rabies has been got rid of. It is the same in Denmark, where the last case appeared in the island of Fühnen in 1884, and in it and in Sweden its extinction has been due to the rigid application of sanitary police measures. With regard to the latter country, Professor Lindquist, of the Stockholm Veterinary School, wrote to me last September in these terms:—

"For the last ten years (1879 to 1888) the history of *Rabies canina* is as follows. In 1879 in Gothenburg one dog was affected, and in the northern parts of Sweden (Lapland) ninedogs, one sheep, one cat, and two people were reported as attacked by it; in 1880-81 no cases; in 1882 three suspected cases; in 1883-85 no cases; in 1886 the disease appeared by means of a dog imported from St. Petersburg; 1887-88 no cases. The importation

of dogs from countries in which Rabies is prevalent is forbidden. When the disease appears in Sweden, rabid dogs and animals bitten by them are killed, and in the radius of ten kilometres from the place where the malady occurs, muzzling of all dogs is enforced for a period of 120 days after the last case. With regard to suspected animals that had bitten any person, the same regulations are carried out as are laid down in your remarkable work, "Rabies and Hydrophobia."

The measures which have stamped out Rabies in Norway, Sweden, Baden, and elsewhere will extinguish it in the United Kingdom; and the same measure which prevents its invading these countries will stop its reappearance here when it has once been got rid of.

In a country in which the disease is prevalent, in order to stifle it three measures are necessary; and to render them effective they must be rigorously and vigorously carried out.

The first of these is muzzling all dogs for a period covering the extreme limit of the latent stage of the scourge. The muzzle has two most important advantages. In the first place, it prevents dogs biting when at large, and so prevents fatal inoculation should they be infected. Its utility in this respect has been demonstrated in every outbreak of Rabies, and the arguments put forward against its employment will not bear scrutiny when confronted with the facts accumulated in its favour. In the second place, it affords a ready indication that a dog wearing it is cared for, and is not an ownerless, wandering animal—one of the class that usually disseminates the contagion, and which should therefore be captured as suspected. Rabid dogs usually escape from their homes, owing to a strange impulse, and roam about the country; for this reason, in some parts of Germany the disorder is named the "Wanderseuche," and in Illyria it is known as "Stecklina," or the escape disease. A well-fitting muzzle should cause no injury, and very little inconvenience to the dog wearing it. Horses disposed to bite have to wear muzzles, and no one seems to think it a hardship for them to do so; it is a safety measure, and so is muzzling dogs in a country where Rabies prevails. But to be absolutely effective in eradicating the disease, muzzles should be worn far beyond the infected regions—indeed, universally in islands like our own; and there should be no exceptions as to kinds of dogs being exempted when out of doors. Exemption has been claimed, for instance, for shepherds' dogs, but I really can see no valid reason for such exclusion. In this I am supported by the letter of a farmer and grazier, which appeared in the *Mark Lane Express* for the 2nd of February of the present year. He writes:—"The farmers and graziers in Kent object very little to the (muzzling) order, the dogs

do not mind the muzzle after the first, and a sheep dog in a good wire muzzle can do his work and bark as well as without one. Of course, he cannot bite the animals, nor do I want him to."

When Rabies is suppressed, then the muzzle can be abolished.

The second measure is almost as important as the first. All dogs over three months of age should be registered and licensed, the licence being fixed at a comparatively high figure for pleasure or non-utility dogs. In connection with this, and as evidence that a dog is licensed and registered, it should wear a collar with the owner's name and address thereon, and have a special number or mark affixed thereto.

The third measure is the destruction of all unlicensed and vagrant dogs. These are the animals which are really a source of damage and danger—damage to sheep-farms, and danger because of their spreading Distemper and Rabies.

There are some minor or secondary measures which should also be considered, such as the destruction of animals bitten by rabid dogs, and which should be looked upon as suspected; compulsory declaration of the existence of the disease; the owners of dogs being held responsible for the damage these inflict, etc.

A system of quarantine for imported dogs, unless it can be clearly shown that they come from non-infected, is absolutely necessary to keep these islands free from Rabies. The history of the disease affords many instances of its introduction into countries in which it was previously unknown, by infected dogs from regions in which it prevailed; and there are territories, such as Sweden and Norway and our Australasian colonies, which are kept free from it only by quarantine. Some years ago I was consulted by the Agent-General for New South Wales (who acted under instructions from that country), as to the best measures to be adopted in order to keep our colonies in that hemisphere free from Rabies, which would have a most disastrous effect in them if once introduced. I recommended six months' vigilant quarantine. This has been carefully enforced, a heavy penalty being imposed in case of evasion, and the plague is still unknown—one of the strongest arguments against the spontaneity of the malady. To exclude it from our shores, a similar measure is necessary, but, owing to the close proximity of infected countries, the period of detention should be longer. The importation of dogs into these islands is not a very urgent matter, and it is not at all unlikely that it would be no great hardship or loss if they were altogether excluded, as is the case in Sweden, at least until the infected countries could be declared free from it.

I have said nothing as to the preventive, or rather protective, treatment of Rabies and Hydrophobia introduced by M. Pasteur, for

the simple reason that when we might suppress the disease altogether in this country, it would seem worse than foolish to keep it always with us—with all its terrors, risks, and inconveniences—and have to, at the same time, either send bitten persons (we could not well send animals) to Paris to be protectively inoculated, or to provide one or more expensive establishments on this side of the channel for this purpose; and in which rabbits must be dying from the disorder every day all the year round, in order that their spinal cords might be prepared for inoculation of some chance person who had been wounded by a mad or suspected dog. Such a procedure would not look very sensible, or even humane, so far as the rabbits were concerned at least. My opinion to this effect will be found in an appendix to the report of the Committee appointed by the House of Commons to inquire into M. Pasteur's treatment of people bitten by mad dogs, of which Committee I was a member. Let us entirely stamp out the disease by the measures I have indicated, and keep it out of our country by total exclusion or quarantine of dogs, and then there will be no occasion for panics, muzzles, or Pasteurian inoculation; nor cause for sorrowful regrets at the continued loss of human life from Hydrophobia. This desire is urgently expressed, no less in the interests of dogs than in those of mankind; though I confess that I value the welfare of my own species a great deal more than I do the lives of canines, much as I consider and even love these.

CONGENITAL STRICTURE OF THE ŒSOPHAGUS IN A PUPPY.

Mr Frederick Smith, L.R.C.S.I. (Royal Infirmary, Dublin), writes to *The British Medical Journal*:—"On December 6th I received a puppy, a month old, and the smallest of his litter, but otherwise in good condition. The following day he vomited, and as long as he lived continued to vomit at intervals of varying lengths. The animal ate voraciously, yet always seemed ravenously hungry, and withal became thinner and thinner. Excretion *per* bowels almost absent. Food retained for some hours was eventually ejected in almost the same condition as swallowed. A fulness about the neck was thought peculiar to the bull-dog breed; it was noticed, however, that any accidental pressure on the neck usually excited regurgitation.

"Obstruction of the gullet by a foreign body was suggested as a diagnosis, but dismissed in favour of Gastritis due to cold, the presence of a severe concurrent bronchial catarrh lending plausibility to this theory.

"Supported by milk enemata for a month he quietly expired a veritable skeleton. A *post-mortem* showed the œsophagus constricted like an hour-glass about the middle, scarcely admitting a pin (the specimen is still in my possession); above this a largely-dilated pouch, containing an ounce or more of undigested food, and considerably larger than the stomach, which was contracted, empty, with the exception of a little gall, and deeply corrugated, but perfectly healthy. The walls of the dilatation were distinctly thinner than those of the portion below the stricture; at the seat of obstruction they

were so thin as to be almost transparent, the connection between the upper and lower portions being of the frailest character; a little less, indeed, and there would have been no communication between the two portions.

"Intestines empty; gall bladder distended with bile; other organs normal. The kidneys, however, seemed abnormally large for the weight and age of the animal, so far as I could judge from my limited acquaintance with the anatomy of the dog. The excretion of urine was certainly out of all proportion to the amount of fluid ingested, but I am unable to connect this with the large kidneys.

"To account for the animal's living at all I surmise that his dam's milk would trickle through the narrow passage, and thus he was almost as well off as his brothers; but the first solid food stuck against and effectually closed the minute orifice, and hence the sequel."

THE FITZWYGRAM PRIZES.

Lt.-General Sir F. Fitzwygram offers his usual veterinary prizes for 1890. But the competition will be limited to students who, since the last competition, have obtained the diploma of the R.C.V.S. by passing both the oral and practical examination at the same time, direct from the school.

Sir F. Fitzwygram's main object in years past, in offering his prizes, has been to stimulate competition between the schools rather than between the students, and this object would be lost if the successful competitors obtained the prizes by study and practice outside the schools.

The subjects of examination, the marks, etc., will be the same as last year.

Reviews.

Evolution and Disease. By J. Bland Sutton. (London: Walter Scott, 1890.)

This book by Mr. Sutton forms one of the Contemporary Science Series, which is now being published, and which already contains several works of great scientific merit and interest. The volume before us is particularly deserving the attention of evolutionists and pathologists, as it was written with the view of indicating that there is a natural history of disease, as well as of plants and animals, and that disease is controlled by the same laws which regulate biological processes in general. Alluding to the difficulty in defining where sanity ends and insanity begins in man, the author says:—"As with mental, so with bodily conditions it is impossible to state definitely the borderland between health and disease, either in relation with functional aberration or textural alteration. And in many instances we shall find conditions which we regard as normal in man, presenting themselves as normal states in other animals. If it be difficult to define disease when our remarks are restricted to the human family, it becomes obviously more difficult when we attempt to investigate disease on a broad zoological basis. As the great barrier which exists between man and those members of his class most closely allied to him consists, not in structural characters, but in mental power, it necessarily follows

that there should be a similarity in the structural alterations induced by diseased conditions in all kinds of animals, allowing, of course, for the difference in environment. This we now know to be the case; as it is clear that as there has been a gradual evolution of complex from simple organisms, it necessarily follows that the principles of evolution ought to apply to diseased conditions if they hold good for the normal, or healthy, states of organisms: in plain words, there has been an evolution of disease *pari passu* with evolution of animal forms. For a long time it has been customary to talk of physiological types of diseased tissues, and my earlier efforts were directed in searching among animals for the purpose of detecting in them the occurrence of tissues which in man are only found under abnormal conditions. The search was of great value to me, for the statement proved to be true in only a limited sense; at the same time the truth of an opinion held by nearly all thoughtful physicians, that disease may in many instances be regarded as exaggerated function, was forcibly illustrated, and I quickly saw that the manifestations of disease were regulated by the same laws which govern physiological processes in general, and that many conditions regarded as pathological in one animal are natural in another."

This quotation will show to some extent the scope of the work, the plan upon which it is based being as follows:—The effects of increased use and disease of parts is considered in connection with the gradual change in the function of organs, and the part played by the transmission of the effects of increased use and disuse in producing vestigial structures in complex organisms. The tendency of vestiges to become diseased, or to give rise to conditions disadvantageous to the individual, is fully dealt with. The important and interesting subject of the transmission of acquired characters and malformations is briefly discussed, and a chapter is devoted to the causes of disease arising without the organism, and the relation they bear to the remarkable processes, inflammation and fever. Tumours are considered in connection with general morbid processes, and the scanty knowledge we possess of the zoological distribution of disease is summarized.

As might be inferred, the book is extremely interesting and suggestive, and with the illustrations, which are numerous and well executed, affords a wonderful insight into the transmission of defects—congenital or acquired. It would have delighted the heart of Mr. Darwin; and we are certain that it will give great pleasure and food for thought, as well as stimulate the powers of observation, of those members of the veterinary profession who possess themselves of it. It ought to be in the library of every veterinary surgeon, and its low price (three shillings and sixpence) should be no obstacle to its obtainment.

A Practical Guide to Meat Inspection. By T. Walley, M.R.C.V.S. (Edinburgh and London: Young J. Pentland, 1890.)

The very important subject of meat inspection is treated in this booklet of less than one hundred and ninety pages, in a very lucid and complete manner.

The distinguishing characteristics of the flesh of each animal used for the food of man, marketable and unmarketable flesh, rules to be observed in inspecting flesh for food, the examination of carcases, and the diseases which are likely to render the flesh of animals noxious, as well as several diseases which there is no evidence to show render flesh injurious—all these matters are alluded to in a satisfactory manner, as likewise a short section on ptomaines, and another on legislation in reference to the inspection of meat. There are a number of good illustrations, the majority of which are coloured, which should assist the amateur in recognising the objects they represent when he meets with them. The book is of a handy size, and ought to be in request by those who are entrusted with this important section of sanitary work.

A Manual of the Theory and Practice of Equine Medicine. By J. B., A., and G. Gresswell. Second Edition. (London: Bailliere, Tindall, and Cox, 1890.)

We noticed the first edition of the Messrs. Gresswell's book when it was published in 1884. The fact that it has run on to a second edition shows that it has been appreciated by those for whom it was written. It possesses all the information required by people who desire to know something of the diseases of the horse and their treatment, written in an agreeable manner. At page 28, we note that "the hoofs of the Arab horses are never shod, and even among the burning sands and hard rocks these beautiful animals tread with unbroken hoof," etc. Whenever the Arab horseman can avail himself of shoes for his steed, the animal is shod, and Arab horses without shoes are, in our experience, exceptional. General Daumas' book on the horses of the Sahara testifies to the value the Arabs attach to horse-shoeing, and the esteem in which they hold the shoer.

The Journal of Comparative Medicine and Veterinary Archives. Edited by W. A. Conklin, Ph.D., D.V.S., and R. S. Hindekoper, M.D., V.S. (New York: A. L. Hummel.)

This excellent journal, which was commenced as a quarterly, began its career as a monthly in January last, and bids fair, judging from the three numbers already issued, to represent, to the fullest extent, the position and progress of Veterinary Science in the United States of America. From its tone, and the status of its able editors, with their well-known enthusiasm in the promotion of their calling, there can be no apprehension that the reputation of the veterinary profession will suffer from the more frequent appearance of this journal, and it has our best wishes for its success. It should be as welcome on this side of the Atlantic as it is in the States.

Proceedings of Veterinary Medical Societies, &c.

ROYAL COLLEGE OF VETERINARY SURGEONS.

SPECIAL MEETING OF COUNCIL, HELD MARCH 12TH, 1890.

Professor AXE, President, in the chair.

Present:—General Sir Frederick Fitzwygram, Bart., Dr. Fleming, Sir Henry Simpson; Messrs. Wragg, Hunting, Barford, Kidd, Mulvey, Roalfe Cox, J. Simpson, Lambert, Wilson; Mr. Thatcher (Solicitor), and the Secretary.

The SECRETARY read the notice convening the meeting.

The minutes of the last meeting were taken as read.

Letters expressing regret at their inability to attend were announced as having been received from Professors Walley and Pritchard; Messrs. Taylor, Greaves, Briggs, and Simcocks.

The Draft Scheme prepared by the Worshipful Company of Farriers.

The PRESIDENT said that some time ago he called attention to the desirability of taking steps with the view of improving the art of farriery in this country, and it then occurred to him that it would be advisable for the council to unite with other influential bodies in such a movement. He pointed out that if the college, the Royal Agricultural Society, and the Farriers' Company could act together in the movement, some scheme might be drawn out and adopted which would conduce to the improvement of the art of farriery. A small committee was at his request appointed, and the promise of the Royal Agricultural Society and the Farriers' Company to co-operate had since been obtained. A meeting of delegates from the three bodies had been held which resulted in the development of the scheme now before the council. The Agricultural Society and the Farriers' Company had adopted the scheme. It had, in his opinion, been made as unobjectionable to the profession as possible, and, should the scheme succeed, the term farrier would no doubt in the course of time cease to be used in connection with horse-shoeing, and shoeing-smith would cease to be identified with the practice of veterinary medicine. The council were now asked to consider whether the scheme was one to which they could give their sanction. If it was not they would perhaps point out any defects which were likely to operate against the interests of the Royal College.

Sir HENRY SIMPSON seconded the motion. He said the subject had received careful consideration and deliberation, and the colleagues of the sub-committee from the Royal Agricultural Society and the Farriers' Company had met everything that had been said with regard to the interests of the profession in a very kindly and nice spirit. At the outset he ventured to call the attention of the company to the preamble of their charter, where it was stated that it was granted for the purpose of enabling them to prevent unauthorised persons from taking upon themselves the art and mystery of farriery. He added that there could not be the slightest doubt that at that time they really had the charter for the purpose of doctoring horses. About fifty years ago the college superseded them, as they did not use their rights. He also explained that to this day in country places it was not at all unusual to send for the farrier to attend on horses. He asked the representatives of the company whether they had any intention to encourage the doctoring of animals, and they said most emphatically they had not; their only desire being to improve the art of horse-shoeing. He appealed to them, if they wished to have the co-operation of the profession, to remove the word "farrier," and substitute "shoeing-smith," and therefore in the scheme they were now called "registered shoeing-smiths." One of the saving clauses was, "Nothing in this scheme shall be construed so as to entitle any registered

shoeing-smith to use the word 'veterinary' in connection with his forge, in contravention of the Veterinary Surgeons Act of 1881." He hoped that that would lighten the labours of the registration committee very materially, because he thought that when men were registered and read that saving clause they would eliminate the word "veterinary" from their cards. Another thing he ventured to suggest was the removal from the register of the name of any person "guilty of misconduct affecting the integrity of the trade or injurious to the public." He hoped it would be possible for the council to pass the scheme as it stood, for he believed it would eventually lay down a very strong line of demarcation between the veterinary surgeon and the horse-shoer.

Mr. ROALFE COX thought certain alterations and additions to the scheme were desirable. On the title-page and in other places the expression was used, "farriers as shoeing-smiths." He would suggest that it should read, "farriers or shoeing-smiths." He would also recommend that in Clause I. of the report of the Sub-committee, after the words, "technical instruction of farriers," there should be added "or shoeing-smiths, the term farrier in all cases being understood to mean only a shoeing-smith or person skilled in shoeing horses"; "and that they cordially," etc. Clause 3 of the same report proposed that those registered "should have the right to use the letters R.S.S. after their names"; but he would recommend that they should only have the right to use in full the words "registered shoeing-smith." The letters would constantly be misinterpreted, and in out-of-the-way places might be taken to mean much more than they really did. At the end of the same clause he would suggest the addition of the words, "nor in any way to undertake or to practice veterinary medicine or surgery, or any part thereof." The objects of the scheme were defined as "to examine, to register, to instruct, to assist in apprenticing." That seemed rather progressing backwards. The order should be "to instruct, to assist in apprenticing, to examine, to register."

Mr. WILSON hoped that the Council would strike the word "farrier" out of the scheme. County practitioners would suffer for years if registered farriers were permitted.

The PRESIDENT said they would not be able to adopt the term "farrier"; they were specifically termed "shoeing-smiths."

Mr. J. SIMPSON said the College could not hope to get all they would like to have, but they must meet the Farriers' Company in some way or other. That Company was not likely to part with the right to use the word "farrier." With regard to Mr. Cox's suggestion to substitute the word "or" for "as," in the expression "farriers as shoeing-smiths," he thought there was very little difference between the two forms. He ventured to think it would be impossible to prevent farriers using an abbreviated form for "registered shoeing-smith." Again, a man could not be prevented from undertaking veterinary surgery so long as he did not describe himself as other than he really was. The saving clause was quite sufficient to protect the members of the profession. Clause 28 of the scheme provided that "farriers (masters or journeymen) established in the trade prior to the date at which the Register is opened shall not necessarily be required to undergo an examination before registration." To his mind that spoiled the whole thing. Nothing was even stated as to what the Worshipful Company would be satisfied with beyond "satisfactory proof."

Mr. HUNTING said the detailed rules were not out yet. The present was only a rough scheme.

Sir HENRY SIMPSON said that six members of the profession would be on the Registration Committee.

Mr. SIMPSON asked if Clause 20 meant that the questions should be decided

on upon January 1st, committed to paper, and allowed to fly about until the next January.

SIR HENRY SIMPSON said the examinations would be held simultaneously, and only once a year.

Mr. WILSON said he had that day asked one of his clients, "Suppose you left home this morning in a hurry, and told your man to fetch the farrier, whom would he expect you intended him to go to?" The answer was, "You, of course."

Mr. LAMBERT said there was a great jealously in the profession generally about granting a certificate of any kind that could be construed into a licence, or that might lead to a belief on the part of the public that the holder was entitled to practice veterinary surgery. In country districts, such as Cheshire, the people always called the veterinary surgeon the farrier. Because the Worshipful Company of Farriers had taken up this question very warmly was no reason why the College should give way to them on a question of rights. What was to prevent a man after registration putting "R.S.S." after his name?

Dr. FLEMING: There will be no penalty.

Sir HENRY SIMPSON: The Company propose from time to time to publish lists of those who are on the Registrar.

Mr. LAMBERT said that, like Mr. Wilson, he should prefer that the word "farrier" should be eliminated altogether.

Dr. FLEMING quite agreed with Mr. Lambert and Mr. Wilson, that if possible the word "farrier" should be eliminated from the scheme. It is a very confusing term. It meant either a horse-shoer or a veterinary surgeon. From its derivation it simply meant a worker in iron; therefore, he thought the term "horse-shoer" should be used throughout the scheme. If the word "farrier" was used it would only tend to continue the confusion. It was highly proper that the College should take every means to distinguish between members of the profession and horse-shoers; but at the same time they should give the scheme their hearty support. It was a movement which had been required for a very long time. In France, Germany, and especially in Belgium, there was such recognition of farriers. In the last-named country there were regular examinations, and those who passed were registered. The German term for the name, "hoof-smith," was very appropriate. If the Worshipful Company were really anxious to improve the art of horse-shoeing they should not object to using only "shoe-smiths," or "horse-shoers."

Mr. HUNTING said the chief interest shown by the the Council seemed to be whether they could not do away with a word in the English language, and stop other persons from stepping on their toes.

Dr. FLEMING: I have previously approved of the scheme.

Mr. WILSON: So do I if the word "farrier" is struck out.

Mr. HUNTING said that the word "farrier" was extremely ancient, and no doubt was originally applied to horse-shoers, but, like other trades, that of the farrier extended until it came to include not only the man who shoed, but the man who doctored horses. In the reign of Charles II. these men found themselves strong enough to combine and formed themselves into the Worshipful Company of Farriers. Next, the Royal Veterinary College at Camden Town was formed, absolutely dropping the word "farrier," which was handed over to the man who shoed horses; but now, like the dog in the manger, the Council wanted to get rid of the word which they did not use themselves. But they could not do away with a word in the English language simply because they did not like it. They might, however, try and fix the significance of the term, as applied to horse-shoeing, whenever they got the chance. He held that the Council were throwing away one of the best opportunities they ever had. If there was a big central society of farriers in London, and committees of farriers all over the country, it would not take

long to teach people the difference between the veterinary surgeon and the farrier. In every large town in England farriers were known solely as horse-shoers. There were also trades unions of farriers who would stick to their names. Would the army abolish the word "farrier" and substitute shoeing-smith?

Dr. FLEMING: We are trying to do so.

Mr. HUNTING said it had not yet been done. The farrier-major or the farrier-sergeant was more to be feared than any blacksmith. It seemed to him absurd that a great profession like that of veterinary surgeons should be afraid of a little charter or a little trade. Mr. Cox had wished to alter the sequence of the words in the definition of the objects of the scheme, but they were put in the order of importance. The important things were the examining and the registering. He did not believe that the scheme would at all interfere with the practice of veterinary surgeons.

The report was then received.

Mr. J. SIMPSON moved that the report be adopted. He said he did this with a view of testing the feeling of the Council on the matter.

Mr. KIDD said if Mr. Cox moved an amendment in the direction he had indicated he would second it. If the "technical instruction" simply related to the hoof, the sole, the frog, and things appertaining to those parts, he considered it quite necessary. He objected to the composition of the General Committee; the Council ought to appoint ten instead of six. Next, there was no word in the draft scheme as to how the examiners were to be appointed, or what the examination was to consist of.

The PRESIDENT: That is a matter of detail.

Mr. KIDD thought that the Board should test the man as to what shoe he would apply in particular cases, and how he would make and fit it. He did not approve of putting a lot of farriers on the register without examination. Every horse-shoer ought to undergo examination, but for those who had been horse-shoers for a long number of years it should be solely practical, and might be a little milder. If all present horse-shoers were admitted to the register it would bring discredit on the register for years after, for the system of shoeing in some farmyards was discreditable. Clause 45 said that "The Worshipful Company shall not be responsible for any expenditure incurred," showing that they were not exactly taking the lead, as had been represented.

Mr. HUNTING: That only means that the funds for this purpose will be kept separate and distinct from the Company's ordinary funds.

Mr. KIDD thought that the use of the words "district councils," as in Clause 51, might lead to confusion. He would prefer the term "district committees."

DR. FLEMING said the term "farrier" was really obsolete now, so far as its true meaning was concerned. There was a Mercers' Company, but no one ever now heard of mercers. He had no wish to deprive the Farriers' Company of their old title; but if the term was so ambiguous that horsekeepers and others could not distinguish between a farrier and a veterinary surgeon, surely it was advisable to do away with the word. If the Farriers' Company had the matter proposed to them in the proper light, they would understand that it was not desirable to continue the use of a term which was so misleading and so prejudicial to the profession.

The PRESIDENT seconded the motion for the adoption of the report. In initiating this movement he had two objects in view. One was to eliminate as far as possible the term "farrier," and the other was to improve the art of horse-shoeing. Though they could not abolish the use of the word "farrier," they might, at any rate, place it in its proper application, and the aim and object of the scheme was to effect that. The only title which the candidates

would have would be registered shoeing-smiths. The term "farrier" would not enter into their certificates. It was simply introduced into the scheme on account of its old connection with the Company. The Royal College of Veterinary Surgeons would only place itself in the position of helpmates to the Company.

Mr. BARFORD felt that the Company would resist to the uttermost the elimination of the word "farrier." It was not of very serious importance, because it was distinctly stated "farriers as shoeing-smiths." Perhaps the word "or" instead of "as" would be an improvement; but he could not help thinking that the scheme was a step in the right direction. The art of shoeing had been very much neglected in the past. As the old farriers died out he believed that the new generation would not attend horses in sickness, now that veterinary surgeons were spreading all over the country.

Mr. COX moved as an amendment that where the expression "farriers as shoeing-smiths" was used it should run "farriers or shoeing-smiths."

Mr. KIDD seconded the amendment.

The amendment was carried by ten votes to three.

Mr. KIDD proposed an amendment to increase the numbers of the General Committee appointed by the Council of the College from six to ten, but, there being no seconder, the amendment fell through.

On the motion of Mr. HUNTING, seconded by Mr. WRAGG, the report was adopted with the amendment proposed by Mr. Cox.

The proceedings then terminated.

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

THE Annual Meeting and Dinner of the above Society was held in the London Hotel, Edinburgh, on February 19th, the retiring President, C. Cunningham, Esq., in the chair, at the commencement of the day's proceedings.

A large number of members and friends were present, including Messrs. Watt, J. P., Carlisle; Sidey, Buttar, Cowe, Wilson, Ferguson, Hutchinson, Dr. Webb, T. Swain, Professors Williams, W. O. Williams, Lewis, and McAlpin; Messrs. C. Philips, A.V.D., Piershill; C. Cunningham, Slateford; H. Thompson, Aspatria; Jas. Boothwick, Kirkleston; J. Aitken, Dalkeith; Greaves, Manchester; Spreull, Dundee; Weir, Glasgow; Constable, Inchture; Campbell Kirkcudbright; Fairbairn, Cupar; Boyd, Melrose; A. Robb, junr., Glasgow; Clark, Cupar Angus; Pottie, Paisley; Brown, West Calder; Hatton Kelso; Young, East Calder; De Jong, Edinburgh; Young, N.B.A., some visitors, the representatives of the press, and the Secretary.

Mr. CUNNINGHAM, Slateford, delivered a brief address, in the course of which he spoke of the importance of the subjects discussed by the Society during the past year. Pleuro had not, he said, been eradicated by the compulsory Slaughter Order. As time went on he was more and more convinced that inoculation was preferable to the stamping-out policy, and he believed that if Pleuro-pneumonia was ever to be got completely rid of, it would be by concilatory, and not by extreme measures forced on unwilling owners of stock.

In moving a vote of thanks to the retiring president, Principal WILLIAMS also alluded to the value of inoculation as a preventive of Pleuro, and referred to the recent remarkable case in Selkirkshire. In the beginning of December last an outbreak of Pleuro occurred at Carterhaugh, on the Duke of Buccleuch's estate. Mr. Connochie, V.S., Selkirk, had the affected animal slaughtered, and also the cow standing next her. There were five other valuable shorthorn cows in the byre, and as the slaughter of these would have involved the ratepayers in the loss of £100, the local authority requested and received the sanction of the Agricultural Department to have the cows

inoculated as a test of the value of that remedial measure. This was accordingly done, and no more was heard of the disease until the other week, when some retired military officer from the Department visited the herd, and an order was thereafter sent down from the Department ordering the cattle to be slaughtered, which order was, of course, at once obeyed. A *post-mortem* examination was made of each cow, with the result that without exception every one was found to be perfectly healthy.

Mr. HENRY THOMPSON, M.R.C.V.S., Aspatria, President of the Society for the current year, then took the chair, and on doing so delivered the following address:—

GENTLEMEN,—I must say that in the halcyon days of youth, my fleeting fancy never conceived the remotest idea that I should at any one time occupy the presidental chair of any medical society in the great centre of learning —the city of Edinburgh. But, gentlemen, since you have decreed that I should preside over our meetings during the present year, I hope you will bear with my shortcomings, and assist me in carrying out the duties to the satisfaction of one and all; and I earnestly hope that our gatherings may be pleasant and social, as well as interesting and instructive, and for the great honour you have done me I thank you most sincerely.

Being a great lover of our profession, it is with the deepest regret I read in our medical periodicals the diversity of views of some of our most noted experts on matters where no difference of opinion should be held—I allude to the *post-mortem* appearances of the various organs of the body. We are all taught on a somewhat similar basis, yet we do not all see alike, and consequently do not arrive at the same conclusions. Is it because we are not constituted alike? or is it jealousy or some prejudice that still prevails amongst us, or what is it? True, the formation of our medical societies have been the great means of establishing a better feeling and a greater bond of brotherhood—would that it were more so.

If, instead of giving conflicting evidence in Courts of Justice, we could only agree, and confirm each others opinions, it would tend to give us a better standing, and our opinions would be held in more respect by the public. Let us argue out our difference of opinion in private, and in societies like this, but not in public Law Courts.

Generally speaking, inaugural addresses are of a retrospective character, tending more to a social than a professional review, but seeing that our meetings are so few, we should, I think, combine business with pleasure as much as possible.

At the present moment there are a great many important topics pertaining to our profession exercising the minds, not only of professional men, but also of a considerable section of the public.

To members, Clause IX. is very offensive, yet I must say we are ourselves to blame for allowing it to stand so long unnoticed. But I would strongly go in for its repeal, for I consider it robs the members of some of the privileges granted in the Charter of 1844, and is scarcely in keeping with present views when the franchise is extended to the majority. Clause IX., so to speak, disenfranchises the members, and only Fellows can be members of Council, while none but Fellows must be examiners. Until the objectionable Clause is abrogated, I think all the members should discontinue to record their votes for members of Council and leave the Fellows to elect themselves.

The dual appointment also wants reforming. The Members of Council and the Board of Examiners should be two distinct bodies. There are plenty of good men and true able to fill either situation. The present practice is not in accordance with the working of other governing bodies, and should be abolished.

Again, by reason of the office held by the Principal of each Veterinary

School and the heads of other veterinary departments, such as the Army, Board of Agriculture, and Chair of Examiners, they should, I think, be *ex-officio* members of the Council. I hope, gentlemen, you will pardon me for alluding to these subjects, but it is only by agitation that reform can be brought about.

I shall now briefly refer to another matter which is at present engaging the public as well as the professional world—I mean Pleuro-pneumonia. Of late a great deal has been said and written, but up to the present time the conflicting opinions are of such a character that nothing definite has been arrived at, except that of carrying out the law of compulsory slaughter of "in contact" healthy animals, which is not only unpopular, but very unsatisfactory, expensive, and ruinous to many. Some say the disease can be cured; others that nothing but wholesale slaughter will eradicate the malady; while a few contend that judicious inoculation, with the slaughter of the affected and suspected, is the best remedy, the least expensive, and most satisfactory.

Respecting the curative possibilities—from the specific nature of the complaint and the morbid condition of the affected parts, I think we are agreed that this is a consummation not to looked for. The compulsory slaughter of healthy animals and the closing of affected premises for fifty-six days and upwards, instead of stamping out the malady, in my opinion, tends more to its increase. Thirty years ago the disease was as rife as it is now, yet there were no regulations in force. If any one got the disease in his stock, all his neighbours were made aware of it; there was no suspension of business, therefore no concealment. But now things are quite different; the ever-increasing population, which in large centres tends to a bigger demand for dairy cattle, these, by great facilities of public auction marts, are replenished by a trading community which makes the business a speciality. The auction marts, again, open out an opportunity for cattle being sent from various places, *entered for sale in any other name than that of the owner*—who may have had one or more cases of Pleuro, and has, perhaps, slaughtered the affected animals without either calling in veterinary aid, or reporting the cases—selling off his "in contact" animals at the different auction marts, and re-purchasing others to take their places. By these means the disease is spread, and keeps breaking out again; this, I believe, is in a great measure due to the compulsory slaughter order, the necessary closing of premises, and the suspension of business.

(*To be continued.*)

MIDLAND VETERINARY MEDICAL ASSOCIATION.

THE annual meeting of this Association was held at the Stork Hotel, Birmingham, on February 14th. Mr. E. Beddard, Wolverhampton (President), occupied the chair, and there were present:—Sir H. Simpson, Windsor; Professors McFadyean, Edinburgh, and Pritchard, London; Messrs. Trigger, Newcastle; Merrick, Northampton; Rossel, Sandiacre; Greaves, Manchester; Briggs, Bury; Blakeway, Gibson, Parker, Price, Malcolm, Mettam, Stanley, and Tailby, Birmingham; R. Cartwright, J. Cartwright, and Wilkie, Wolverhampton; Olver, Tamworth; Jones, Leicester; Wiggins, Market Harboro; Blunt, Lutterworth; Horton, Warwick; Over, Rugby; Blakeway, Stourbridge; Pemberton, Bridgenorth; Butcher, Cleobury-Mortimer; Collett and Davies, West Bromwich; Chambers, Dudley; Tipper, Balsall Heath; Paley and Pinder, Walsall; Carless and Pinkett, Worcester; Freer, Uppingham; Coe, Stoke; Carless, Stafford; Watkins, Lichfield; Wartnaby, Burton-on-Trent; Smith, Tunstall; Gold, Redditch; Golden, Martham; Barling, Ross; Fletcher, Sutton; and others.

Letters expressing regret at their unavoidable absence were received from

Professors Walley, Williams, Penberthy, Dr. Fleming, Messrs. Simpson, Kidd, Wragg, Hunting, Wolstenholme, Russell, Taylor, Perrins, West, Kerney, Green, Blakeway, and others.

The following were nominated for election as members:—Messrs. A. L. Gibson, E. Franklin, and A. E. Mettam, Birmingham; T. Butcher, Cleobury-Mortimer; and Warmington, Sutton; Professor McFadyean was nominated for election as Hon. Associate.

Mr. R. C. Trigger was selected, as the Society's nominee, for Membership of Council of the Royal College of Veterinary Surgeons.

Election of Officers.

Mr. F. W. Wragg was elected President. Messrs. E. Beddard, W. S. Carless, and G. Rossell, Vice-presidents; the Treasurer, Mr. F. Blakeway, and the Secretary, Mr. J. Malcolm, were re-elected.

The TREASURER presented his report, which showed a balance in hand of £156 2s. 6d. against £135 8s. 8d. last year, and in the course of his remarks said that while the expenses had been somewhat greater than usual, the membership had proportionally increased, and he thought on the whole there was reason to be satisfied that the society was sound financially and in such a healthy and flourishing condition. Mr. Blakeway added that four subscriptions were due for 1889, four for 1888 and 1889, and one for 1887-8-9. The report was adopted.

Sir HENRY SIMPSON showed a singular specimen of abnormal dental growth in a horse, found on a ranch in Australia. Mr. WARTNABY exhibited the tibia of a yearling bull which had failed to grow after being set. Mr. GOULD showed a portion of pig's heart, with vegetations.

The following address was next given by Professor McFadyean:—

ON SOME OF THE USES OF THE MICROSCOPE AS AN AID TO DIAGNOSIS IN VETERINARY PRACTICE.

It would be as absurd to attempt to deal with the whole subject in a single lecture as it would be for a surgeon to attempt to describe the uses of the scalpel within those limits. I propose therefore to speak only of the services which a microscope may afford in a case of Anthrax, Tuberculosis, Actinomycosis, and a disease which may readily be confounded with the last of these. With reference to the disease becoming familiar to the general public under the name of Anthrax, I wish to say a word or two about the method of diagnosing it with certainty—I mean the method by which one may demonstrate the bacillus anthracis, which is undoubtedly the cause of that disease. Suppose that one is called in to a case where the history causes a suspicion of Anthrax, the method of examination that ought to be put into practice is of the simplest possible character, and it is more particularly to enforce this that I refer to the disease at all.

I know, from coming into contact with practitioners, that there is a too general notion that it is difficult, or requires some complicated process of staining, to demonstrate the bacillus of Anthrax. Now that is a great mistake. If a practitioner has got a tolerably fresh carcase to deal with, he ought certainly not to lose the opportunity of examining the blood, taken either from the spleen, the heart, or one of the large systemic veins, because he has a great advantage over the man who comes in after him, or the man to whom he may send a portion of the blood for examination. His examination is not disturbed by *post-mortem* decomposition or the development of adventitious organisms. I am now speaking of the means of diagnosis after death, but somebody may say, "Can Anthrax not be diagnosed during life?" Well, in general the history is that the animal was found dead, but even if one finds an animal showing symptoms of disease, the most careful examination of the blood of that animal may fail to reveal a single bacillus. One might naturally

conclude that this negative result would justify the diagnosis "No Anthrax"; but that would be a great mistake. An examination of the organs in a case of Anthrax explains that well enough. The principal location of the germs is not the circulating blood. The tendency is for them to be arrested in the capillaries. But just before death a very rapid multiplication of the germs seems to take place, and one finds them then even in the blood of the larger veins; and, indeed, it is this great multiplication that is the cause of death.

To return to the method of examination of a suspected carcase, it may be observed that, in addition to a slide and cover-glass, the only apparatus required is an ordinary microscope, such as one may get from any respectable firm for a matter of £4 or £6. Any microscope that will magnify 300 or 400 diameters will suffice to show plainly enough for diagnostic purposes the Anthrax bacilli and the other germs that I am going to refer to. You have only to place upon the glass slide a droplet of the blood, diluted perhaps with a little water that has been boiled and cooled again, and having covered this with the cover-glass, you put it under the microscope unstained. If you now focus carefully you will see the Anthrax rods lying between the blood corpuscles. They are, it is true, not very distinct—nothing like so distinct as in a stained preparation; but to examine a specimen in this way has some advantages over the examination of a stained preparation. In the first place, it can be done immediately, and anybody can do it. Besides, the bacilli are seen in their natural state, and one can observe that they are motionless. There are certain other bacilli which conceivably might be mistaken for the Anthrax bacillus, but which are endowed with the power of motion, and if the bacilli in the slide are observed actively moving—that is to say, not merely carried along in a current—you may know that you are not dealing with those of Anthrax. In an unstained preparation one requires to look carefully in order to see the rods. They look something like little icicles floating in water. The comparison may serve to convey a notion of the care with which one must scrutinise the field of the microscope in order to see the bacilli. A hundred times better than to read about the method of demonstrating the bacillus, or to hear it described, however lucidly, is to see it, and I have therefore placed under the microscope preparations showing the Anthrax rods. I desire to draw attention more particularly to the unstained preparation, and my advice to every one whose practice exposes him to dealing with cases of Anthrax, is to put this method of examination into use in the very first case he meets. It is certain that if it is a case of Anthrax he is dealing with, and especially if the blood has been taken from a much enlarged spleen, he will have no difficulty in seeing these germs, and having seen them once he will thereafter have an amount of confidence in his own diagnosis that he could not possibly have obtained by any other method—in fact, he may then stake his own opinion against any other, however high. The point to which I have referred is not sufficiently dwelt upon in text-books, namely, that the organism can be seen very well without staining. You may ask, "Are the form and size of the Anthrax bacillus so distinct as to exclude the possibility of mistaking any other for it?" Well, he would be a very rash man who would unhesitatingly pronounce a single bacillus under the microscope to be that of Anthrax; but if anybody asks, "Are there pathogenic bacilli that may be found in the blood in numbers exceeding the red corpuscles, and having a shape like the Anthrax bacillus?" then the answer is most decidedly no. You will never meet a carcase in which you find these short, straight, rod-like bodies crowding every droplet of blood, except in Anthrax.

Text-books generally refer to the so-called hay bacillus in this connection, but nobody ever met the hay bacillus in large numbers in the blood of a cow, and, furthermore, its characters are very different from those of the Anthrax bacillus. The Anthrax bacillus is in general a straight, stiff-looking thing, and

it is always motionless; the hay bacillus, on the other hand, is mobile. Moreover, the former is square at the ends, while the hay bacillus is round.

The Anthrax organism when stained undergoes a slight change in appearance. What in the unstained specimen looked like single rods are seen when stained to be made of three or four or more short segments, and these have between them lines of narrow septa of unstained material. When carefully stained the ends of these segments appear to be slightly concave towards the centre, and that is held to be quite characteristic of the Anthrax bacilli.

Here is a diagram of the bacillus of Malignant Œdema. That organism is pathogenic to some of the lower animals, though the ox seems to have an absolute immunity from it. It may easily be distinguished from the germ of Anthrax. It is found extra-vascular for the most part, it is a long serpent-like thing, and it is mobile. Let me anticipate an objection which somebody may make. He may say he thinks that all this is superfluous—that Anthrax was diagnosed long before we were taught anything about the character of the bacillus, that to the experienced practitioner a microscopic examination is not necessary. Now, with all deference I venture to express the opinion that in many cases without the microscope an absolutely certain diagnosis cannot be made. I do not dispute that in the majority of cases Anthrax may be diagnosed with great probability, and sometimes almost with certainty; that is to say if we find that two, or three, or more cattle have died suddenly and mysteriously, with their spleens distended to the point of bursting, and that some of the men engaged in dressing the carcases have had malignant pustules, there can remain little or no doubt that the disease is Anthrax. But a practitioner ought to be able, when he is called in to the first case, to diagnose it with certainty, and I say that he cannot possibly do that without resorting to the microscope.

Several cases have been brought to my knowledge in which Anthrax was overlooked. I recall to memory a case which came under my notice over twelve months ago. A practitioner brought into my laboratory a specimen of blood and asked me to examine it. A minute's examination sufficed to show that the disease was Anthrax. A week afterwards the same gentleman called and told me that the Veterinary Inspector to the Local Authority had disputed the diagnosis, and had counselled the owner of the animal to sell the carcase, and, indeed, it was sold, with the intention of having it made into sausages. I need hardly say that it could not have been sold for any other purpose.

That and other instances that I could relate lead me to believe that a considerable number of cases which are returned as Anthrax are not Anthrax, and that cases of Anthrax are sometimes overlooked. What seems to corroborate this opinion is that in this country very few cases of Anthrax in sheep are reported. That seems to me an inexplicable thing, except on the theory that cases of Anthrax in sheep are not diagnosed.

(*To be continued.*)

BORDER COUNTIES VETERINARY MEDICAL SOCIETY.

THE annual Meeting and Dinner of the above Society was held on February 21st, 1890, at the Bush Hotel, Carlisle. The President, T. Greaves, Esq., F.R.C.V.S., occupied the chair. There was also present:—Professors Williams and Lewis, Edinburgh; Messrs. Taylor (President of the Lancashire V.M.A.), and Faulkner, Manchester; McIntosh, Dumfries; Carlisle, Bell, McKie, Carlisle; Howe, Keswick; Hoadley, Eston; Mayor, Kirkham; Phillips (A.V.D.), Edinburgh; Tucker, Bell, Brampton; Steel, Wigton; Pender, Lockerbie; Thompson (Treasurer), Aspatria; Armstrong (Secretary), Penrith.

Letters of apology for non-attendance were read from several gentlemen, amongst others Dr. Fleming, Professors Brown, Pritchard, Walley, McFadyean,

McCall, and Axe: Sir H. Simpson, Messrs. Snarry, Johnston, Fletcher, Wolstenholme, Lloyd, Glaister, Morgan, Troughear, Kendall, Fisher, Pisson, Walker, Tallentire, Burnett, Watson, Tait, Snaith, Hawke, Beddard, Shore, Kendall, Mulvey.

The following gentlemen were unanimously elected members: — Mr. Glaister, of Millorn; Mr. Pender, of Lockerbie; Mr. McKie, of Carlisle. The Secretary nominated Mr. Tucker, of Brampton, for election at the next meeting. Mr. Thompson gave notice that at next meeting he would move "that the Society fix the dates for the meetings." Mr. Donald not being able to be present to bring forward his motion, it was resolved that it be considered at the next meeting.

The PRESIDENT then read his address, which was divided into five parts, and was as follows:—

GENTLEMEN,—I have to thank you for the honour of electing me President of the Border Counties' Veterinary Medical Association for the ensuing year. It is an honour I esteem very highly, because this association is one of the youngest—having been inaugurated in 1884—and is already one of the most popular and most powerful of our associations, numbering now forty-one members; you have no stain on your escutcheon. This is the ninth or tenth association which has done me the great honour of electing me president, and I have read papers before others besides those I have presided over; thus endeavouring in my humble way to render useful service to my profession. It has been labour that has sweetened many hours of toil. It has been constantly before my mind that our day of opportunity will soon be passed, and in this feeling I would ask every member of this association to attend the meetings. Let us try to make them a centre of ever-widening and increasing usefulness. Give me your support to enable me to maintain the honourable name and position the Society now so deservedly holds.

I purpose to address you to-day on five subjects. I will commence with

Veterinary Medical Associations.

If we only look back and contemplate what our profession was twenty-five years ago, when we had no centres of action, no centres of power, a time when we never had any man of light and learning coming amongst us, a time when such a thing as a professor was never seen or known to come into the provinces, a time when, as soon as we obtained our diplomas and got settled in practice we seemed to be cut adrift from college life and professors. Nothing going on to excite an interest in us or in our profession; our only means of knowing what was going on in the profession through the medium of the *Veterinarian*, once a month. Contrast this with the present state of our profession. We have a meeting of veterinary surgeons at one place or another almost every week in the year; at these meetings we have the presence of our highly esteemed professors—men of science and culture, with others possessing vast stores of knowledge gained by long practical experience and close observation, all giving us the enormous benefit of their studies, informing us, explains to us, and showing us every new and valuable improvement in every department of our calling.

Besides these advantages we have four veterinary journals, ably edited. Three of these journals and all these changes may be traced mainly to the influence of these veterinary associations, some of whose best members have, alas! passed away. It is to their intelligence, skill, courage, and boldness, we are indebted in securing for us the opportunities of the freest interchange of thought, the freest circulation of intelligence, giving to the younger members golden opportunities of improvement, none of which did their forefathers possess. I do not say that the whole movement of the period has been in everyway everything that could be desired, but I do say this, that

there never was a period in our history when there was a livelier, a more active, or a more valuable intelligence at work, not merely in so many theories, but in so many wise and good schemes for rendering practical service in our noble profession. Our hope and prayer is that our profession has a career before it more glorious than our glorious past. Let our thoughts be wider, our interests be less selfish, our ambition be ampler and nobler, and then we shall find in these associations, when conducted in a proper spirit, a pleasant companionship which will tend to brighten our lives, and lead us to take a deeper and much more enjoyable interest in our profession. Then we shall feel that all its ways are ways of pleasantness, and all its flowery paths are paths of peace.

Apprenticeship and Studentship.

In the editorial of the *Veterinarian* for December we find these passages, "signs are not wanting to indicate the growth of a decided feeling amongst the members of the veterinary profession in favour of apprenticeship. The apprenticeship system ought to produce a class of students imbued with a love of their profession, familiar with the habits of their patients, well instructed in manipulation, competent in clinical work, familiar with elementary details of practice, and fit, as well as anxious, to be instructed in the more advanced divisions of the art and science of veterinary medicine and surgery."

In the *Veterinary Record* of December 7th, we find, "As the twig is bent so the tree will grow, and as the student is formed so will the professor be shaped. It is then a matter of the deepest interest to us all how the schools provide for the mental and social training of their pupils; habits formed at College became more or less permanent, and the mark of early training is never obliterated. At whatever school we find a teacher more than usually earnest, and skilful in his special subject, we shall find students pre-eminent in that subject." There are youths who have a dislike for study; to those I would say, you have mistaken your vocation. I say to all, be on your guard against the idea that manual industry is necessarily an ignoble thing; on the contrary, it admits of elevation to a very high point of excellence. The man who has had the advantage of manual tuition in his youth will stand on vantage ground all his life; he will have the immense advantage of knowing the proper method of conducting business. It is a matter of indifference how, when, or where the knowledge has been acquired, but the Examiners will be content with nothing less than efficiency in the various departments of knowledge required in our profession.

I have often written on this subject, and I now say a volume might be written on it, and still leave the theme unexhausted. Life is not a lottery wheel, dispensing favours without any regard to the deserts of the winner. Life's best prizes are worked for, struggled for, toiled for, and all the sweeter when secured by reason of the toil and struggle that has won them. Easy won of little worth, might well be a proverb; we do not generally appreciate what has cost us nothing to secure. Let us not be afraid of effort and push, but cheerfully put our shoulder well to our load in life. Having set some good aim before us, let us work with pluck and perseverance, with push and patience, for the object we desire, we shall be the better for the effort, even if we fail in gaining the coveted prize. It is sometimes asked by the indolent apprentice or student, how can I find time for self culture? I answer, that an earnest purpose finds time, or makes time, it seizes on spare moments, and turns fragments to golden account. A man who follows his calling with industry and spirit, and uses his earnings economically, will always have some portion of the day at command, and it is astonishing how fruitful of improvement a short season becomes when eagerly seized and faithfully used. It has often been observed that those who have the most

time at their disposal profit by it the least. A single hour in a day steadily given to the study of some interesting subject, brings unexpected accumulation of knowledge. There are few things more beautiful than the calm and resolute progress of an earnest spirit. The triumphs of genius may be more dazzling, the chances of good fortune may be more exciting, but neither are at all so interesting or so worthy as the achievements of a steady, faithful, and fervent energy. The pleasures which the rich man purchases with his money most of us can do very well without. The joys that cannot be purchased are the dearest and the best. I am saying this to give encouragement to the diligent student, and advice to the apathetic aspirant, whether apprentice, or student. If your indolence, or want of interest in your studies, results in your failure in obtaining your diploma, or in your practice, depend upon it there is no remorse so deep as that which is unavailing; if we would spare its tortures, let us remember this and resolve to work while it is yet day.

The Court of Examiners.

I have taken a deep interest in this subject for many years, have assisted at the election of every Examiner for the last twenty-five years, have sat at the various tables in England and in Scotland scores of times, noting all the questions and answers, and also at the practical Examination on the living subjects. It is one of the greatest treats to listen to a calm, intellectual Examiner testing a bright, educated, practical youth as to the efficiency of his knowledge, but with others it is painful to notice the errors, the fencing, and the quibbling when the knowledge is deficient. I have also seen others taken out of their depth by examiners, not of our profession, on subjects of little or no use in our profession. This has led me to the conclusion that we ought really to elect on our Board none but gentlemen who are fully conversant with the nature and requirements of our professional work, who possess the knowledge of what is essential to its best interests—gentlemen who have made a study of the subjects which they examine upon, whose education, experience, manners, and disposition, give them a high suitability for the duty; possessing patience, and an evenly-balanced mind free from crotchets—one to whom students can look with respect and confidence. To elect to the Court of Examiners a young man who is comparatively unknown, or one who freely admits that he knows nothing about horses or cattle, however eminent he may be, is not adding dignity to that Court.

I again say, as I have said before, there would be no difficulty to find good and efficient Examiners in our own profession on each and every subject. I have brought this matter before the Council, and shall bring it before them again. The two great advantages are these—Veterinary Examiners know full well the requirements of our profession, while the human surgeon does not; and, secondly, it would be a grand, an enormous inducement to aspiring veterinary surgeons to study, to keep up, and increase their knowledge in the various branches of science. This, of itself, so far as it goes, would help to raise the profession. At the present time there are few such inducements offered; it is an honourable post to strive for. The longer I live, and the more I study the subject, the more and more am I convinced that it is an undignified and humiliating statement to make, that we have no one in our profession capable of undertaking the duty to examine on physiology, anatomy, or histology. I think our teachers and examiners would be loth to admit that their teaching was so much below the required standard. Remember this, that the idea of it being necessary that the diploma should be signed by men who would give weight to it, is so much moonshine. The public do not come and look at your diploma; and unless you are a good and successful practitioner, your diploma would not secure you a living, even though it was signed by Albert Edward.

The Veterinary Benevolent Society and the Veterinary Mutual Defence Society.

These societies have sprung from the Veterinary Medical Associations. They are conducted by one staff of officers, have been in existence for twenty-four years, during which time they have been called upon to render assistance to scores of cases of widows and orphans of veterinary surgeons, some left wholly unprovided for, and also to give advice, moral support and pecuniary assistance to a large number of members who had become entangled in legal difficulties in connection with their professional business. The Benevolent Fund amounts to over £2,419 and the Defence Fund to over £516. There is scarcely a month in the year in which we do not receive one or more communications from some members of our profession for advice or assistance. It often happens these communications are from the widows of veterinary surgeons who are not members of our Society, and consequently not entitled to any benefit; we have one under consideration at the present time, in which the husband was thrown from his horse and killed, leaving a widow and five children wholly unprovided for. What an appalling thought this must be. Here let me observe that in my opinion there is no duty so pressing upon a veterinary surgeon having a wife and family as that of making some provision for them in the event of his death. Here is a Society in our very midst with ample funds, whose staff of officers are ready and willing to assist any and everyone of its members in case of need. In this Society it has been shown over and over again, that not one shilling is spent in either rent or in salaries. The conviction is forced upon us that in every case in which no provision is secured by the husband, that husband is guilty of culpable negligence; nay, it may be said with propriety, that he is cruel and wicked to live on for days, months and years knowing that at any moment he may be called hence; knowing full well that if such an eventuality occurs, his wife and dear ones would be utterly destitute. Our English Prayer-book says, "That it may please Thee to protect all fatherless children and widows"; let me invite every veterinary surgeon to become a member.

The Mutual Defence Society has also done much good work. Not one of us is safe from unforseen accident arising in one way or another in our daily business. The officers of this Society have many cases brought before them for their anxious consideration, we have one in hand at the present moment in which an eminent and experienced member is now being sued for £380, the price of a horse, for passing "sound" a horse since said to be unsound; the horse has been sold, and the amount he is now sued for is the loss on the sale, viz., £162. This might have happened to any one of you or to me, some of you may pooh-pooh it, but it is no trifling matter to have your character and professional reputation at stake, besides your hard earnings jeopardized. Conceive the moral relief and support to the individual when all danger and responsibility is assumed by this Society. Again I invite all veterinary surgeons to become members. We shall be glad to supply any member with a copy of the rules.

The Topics of the Day.

There exists at the present time a widespread, earnest desire in our profession to make itself more worthy of public recognition, more useful than has been the case heretofore, to take upon itself greater responsibilities, and to assist in a more official, direct, and effectual manner our Medical Officers of Health, and other authorities in all matters in which our studies, our vocation, and knowledge, have rendered us peculiarly capable. There seems to be a growing opinion amongst us that our profession should henceforth take part, and co-operate with Committees whose duties are to investigate such subjects as those diseases communicable from animal to man; the fitness of flesh and milk for human food; the presence, or otherwise, of

injurious parasites; and the inspections of shippons, slaughter-houses, and dairies. These are matters of enormous importance to every civilized nation. Besides, millions of pounds are invested in horses and cattle, nay the wealth of many nations consists chiefly of them. In nearly every nation on the Continent members of the veterinary profession form an essential part of the Committees which have these duties devolving upon them. The Council of the Royal College of Veterinary Surgeons has a motion on this matter before them by Professor Walley. Possibly we in England have not, until lately, commanded the confidence of corporations, or, perhaps, to our Government our position and importance have been unknown, and therefore our assistance has not been sought. The importance and value of the scientific knowledge now collected and taught at our Colleges cannot be denied, nor the value of the assistance our profession can render be longer unacknowledged. At the time of the Rinderpest it was abundantly proved that the amateur advisers of the Government, although they were lauded at the time as men of high scientific attainments, were simply the blind leading the blind, and after the insane advice given and tried over and over again, they found that the only advice that was of any value was given by a veterinary surgeon, John Gamgee. If his advice had been listened to twelve months earlier—to stamp out the disease instead of dallying with it—the nation would have been saved millions of pounds. It takes time to change the customs and habits of Corporations and Governments, but by a diligent, well-directed, and sustained effort, our capacity, our fitness, our power will gradually but irresistibly come to the front, and our noble profession will become what its best and warmest friends most earnestly desire it should be. This is "the silver lining to the cloud."

I feel I must refer to matters which are causing an immense amount of public scandal, and here let me assure you I approach it with the utmost reluctance, and with sorrow. It is that of a late trial as to the carcase of a cow said to be unfit for human food, belonging to Mr. Thomas Robertson, in which certain highly respected gentlemen in our profession, gentlemen of light and leading, ranged themselves in opposition camps, bringing all their erudition, acumen, and scientific attainments to invalidate, and overthrow in a public court of Justices, the opinions formed and expressed by the scientific gentlemen on the other side. Some of these witnesses held that it was clear it was a case of blood-poisoning, the fourth stomach highly congested and inflamed, and the flesh totally unfit, and highly dangerous for human food; whilst others, of equal eminence and scientific standing, stated that the flesh was perfectly fit for human food, that there was no trace of disease—it was altogether perfectly healthy and very good, no indication of blood-poisoning (absolutely certain about this), womb sound, lungs and liver perfectly healthy. This extraordinary and utterly irreconcilable evidence was remorselesly adverted to by Sheriff Scott Moncrieff, who said: "There had been such an extraordinary conflict of medical evidence, *how such a conflict arose was very mysterious*, but they had instances of it *constantly occurring and in all courts*." Now if such evidence were given by general practitioners, it would have been a shame and a disgrace to them; it would be certain to destroy all faith in their evidence; but it was given by men of light and leading, who ought to know better. I say, its effect is ten times more damaging to the reputation and the position of our profession. Can it be attributable in some cases to strong partizanship rather than honest opinion?

I know of nothing that is so much calculated to demoralize us; to retard our progress and destroy confidence in our profession, than the unfortunate and deplorable exhibitions of these very gentlemen who assume the position of the *elite* of our profession. Is it not a lamentable state of things? What, let me ask, can the public think of us, or of our profession? What can Cor-

porate bodies think? What can Government think? The impression on my mind is that they must think we have no principle of action in our profession to guide us, no true or solid basis to fix our knowledge on; that our science must be all a sham, and that we do not understand what we are talking about. I tell you that these exhibitions cover us with ridicule and obloquy. I feel convinced that we are, as a consequence, losing caste, and that the status of our profession is reduced. Perhaps some may be ready to debate this point, and say, do not both the professors of law and the professors of human medicine differ in their opinions. I reply, yes, they do, but does this mend matters? Do they not in every instance weaken their case; do not the public, the juries, and even the judges, hold it up to universal reprobation as mischievous, and tending to demoralize, and to reduce the value of such evidence.

Is it not said in that best of all books, "that a house divided against itself cannot stand"? I tell you what we want is not more estrangement, but greater unity, more courtesy, and more fair-mindedness amongst us. We have plenty of roots of bitterness amongst us already, without planting new ones. I implore every good and true man to do all in his power to stamp out this plague spot.

There is another matter of considerable importance I would like to refer to, viz., the examination in Botany. This, the least relatively valuable of all the subjects, is allowed to assume an importance which it ought not to possess in deciding the fate of students. Its part in the final decision in the passing or the rejection of a student should be assessed at its proper value. The *Veterinary Record* says: "As usual, the Botany table has proved a stumbling block to many men, and it becomes a question of serious importance whether the Council should not hold some enquiry into the value of this subject, and the extent to which it is desirable our students should be tested;" again, "Veterinary Students have a very full curriculum, and some proportion should be acknowledged as to the value of subjects; to estimate Botany as on a level with Anatomy or Chemistry is simply monstrous, and yet in practice one man may pass his A examination with only "sufficient" in each subject, whilst another is rejected with "very good" in chemistry, and a bad in the paltry subject of Botany." These extracts speak for themselves, and I think every sensible practical man will say, abate this grievous nuisance at once; give Botany only its true value, and write negation over the Botany table. All can easily be taught in the other classes; all the Botany necessary for a Veterinary Surgeon I have seen and known, diligent and deserving students rejected on some subject of little importance or use in our profession. They seemed as though their hearts were crushed in them, and might have said with Longfellow, "Ah, this beautiful world; indeed, I know not what to think of it. Sometimes it is all gladness and sunshine, and heaven itself lies not far off. And then it changes suddenly, and is dark and sorrowful, and clouds shut out the sky. In the lives of the saddest of us there are bright days, when we feel as if we could take the great world into our arms and kiss it; then come the gloomy hours when the fire will neither burn on our hearths or in our hearts, and all without and within is dismal, cold and dark. Believe me, every heart has its secret sorrows, which the world knows not, and sometimes we call a man cold when he is only sad."

LINCOLNSHIRE VETERINARY MEDICAL SOCIETY.

THE eighth annual meeting was held at the Angel Hotel, Peterborough, on February 27th, 1889. Present: Mr. B. Freer (President), Mr. W. H. Brooks, Mr. W. B. Dickenson, Mr. F. L. Gooch (Hon. Sec.), Mr. J. W. Gresswell,

Mr. J. Mackinder, Mr. R. Mackinder, Mr. J. A. Robinson, Captain Russell, Mr. J. Smith, Mr. I. Smith, and Professor Pritchard. Letters of apology were read from Professor Fleming, Professor Walley, and Messrs. F. W. Reeks, Greaves, W. A. Field, Holmes, Hartley, and F. W. Wragg.

The Sub-Committee appointed last year to amend the rules made its report, and on its recommendation it was decided to change the title from "Society" to "Association," and to hold three regular meetings, viz., in the months of February, June, and October.

Captain RUSSELL having remarked that he found the instruments were not complete, the Secretary was requested to ask members to return the instruments, or parts of instruments, in their possession.

Mr. F. L. Gooch was unanimously elected President for the ensuing year; Messrs. Freer, Dickenson, and T. Smith were appointed Vice-Presidents; Captain Russell was re-elected Treasurer, and Mr. James Smith was elected Hon. Sec.

Mr. J. A. ROBINSON then read a paper on

"INFLUENZA IN THE HORSE."

He said: Mr. Chairman and Gentlemen,—The subject which I have the pleasure of introducing to your notice this morning is one for which I can claim no originality, or concerning which I can hope to place before you any facts you are not already acquainted with.

The monotonous routine of country practice does not offer to the mind of the ordinary practitioner that stimulus which is necessary to original research, and the knowledge possessed by our clients of one another, of each other's animals, and of the successes and failures of their veterinary attendant, precludes us in a great measure from those opportunities for experiment which are enjoyed more or less by our town brethren.

Therefore, in introducing the subject of "Influenza in the Horse" to this Society, I do not attempt to adduce anything new or to controvert any of the accepted theories respecting this disease, but hope, that as in some of its forms it is one of the most prevalent diseases we have to treat, it may not prove uninteresting to you, and that in the accounts of comparative successes and failures brought forward in the discussion to follow, we may all learn something from the practical experience of our fellow members.

Epizoötic Catarrhal Fever or Influenza is a febrile disease affecting the horse; it is generally manifested by inflammation of the respiratory mucous membrane, the naso-pharangeal being, as a rule, most severely implicated; but this is by no means always the case, as outbreaks of the disease occur in which the principal seat of the attack is the larynx, bronchia, lungs, pleura, or some of the abdominal viscera; and it is often either accompanied or followed by Rheumatoid Inflammation of the joints or fibrous tissue of the limbs.

Under the head of Influenza I include those cases of Catarrhal Fever which occur sporadically or as enzootics, as the symptoms present a great resemblance to those of the Epizootic outbreaks, with the exception that they are not as a rule so severe or characterised by such extreme debility.

Outbreaks of Influenza are recorded in the earliest veterinary literature, and accounts are given by Dr. Fleming, in his "Animal Plagues," of some which appear to have been of exceptional severity. It is probable that the diseases referred to were not what we now understand as Influenza, but appear to have been of an Anthracoid character. Their severity would no doubt be increased by the ignorance of our ancestors respecting the laws of hygiene, and the by no means rational treatment to which all our domestic animals have been subjected before the present era of veterinary science and practice.

It is not, however, unreasonable to suppose that in the progress of ages diseases as well as races of animals and plants become extinct, so that these diseases which appeared to have periodically devastated the equine race may have had their origin in Bacteria, which now luckily for us are non-existent or have lost their morbific character.

The etiology of Influenza has not yet been definitely settled. As a contagious disease, it is no doubt produced by a living bacterium, similar to those proved to be the "causus morbi" of many of our other contagious diseases; or it may be due to a non-living poison of a septic nature, generated by the peculiarity of the atmospheric conditions, existing at the time of an outbreak, and capable on its excretion from the animal body of reproducing the same train of symptoms in a fresh animal as had been apparent in those whose tissues it had previously invaded. The septic theory of origin of Influenza is held by all the older veterinary writers, but in the present age, when our knowledge of bacteria is advancing so rapidly, we can scarcely think that what has been proved to be the cause of diseases so very similar in their methods of extension, is not the source of origin of this also. In the recent epidemic of Influenza in man, Cocci, thought to be the cause of the disease, were discovered by Austrian pathologists; but on account of the difficulty in separating them from the various bacteria which are so plentiful in all diseased tissue products, it was found impossible to prove their specific properties by inoculation.

There can be little doubt that the bacteria giving rise to a disease so prevalent as this, must be always, or nearly always, floating in the atmosphere in larger or smaller quantities, ready to invade the tissues of any animal, the vitality of which (and it follows, as a matter of course, its power of resisting disease) has been lowered by bad ventilation, over-work, or change of climate and diet. Thus it happens that very few horses get over an important change in their environs without an attack of Influenza, severe or mild, depending on the constitution of the affected animal. I have observed that the severest outbreaks of Influenza occur in those seasons when the atmosphere is abnormally mild and damp, or changeable, and the vigour and vitality of the animal reduced in consequence. This state of matters leads to an accumulation of effete material in the animal system, which forms a fit pabulum for the virus of the disease to live and reproduce itself.

Damp is always a great factor in its production, and as a rule the number of cases we are called upon to treat is very much reduced in a hot, dry summer, or a cold and frosty winter.

As bearing upon the multitudinous forms in which Influenza presents itself to our notice, I should like to draw your attention to the probability of the occurrence in a natural state of that graduation and alteration in pathogenic properties, which Pasteur has induced artificially in the bacteria of Rabies, Anthrax and Cholera. As the virus probably only exists in the animal body during the period of the disease, an outbreak or an attack must be greatly influenced by the process the virus has undergone in the period which has elapsed since its elimination from its equine host. This influence has no doubt a great deal to do with the uncertainty as to whether the virus on its return to the animal system will attack the respiratory mucous membrane, the lungs, the pleura, or the abdominal viscera. In reference to this matter I have observed that in Epizöotic outbreaks the animals first attacked are affected in a form which, though milder, continues considerably longer than in those in which the disease develops itself later. The probability is that in these later cases the contagion has been conveyed from the earlier ones, and that the virus becoming more powerful by its residence in the body of its equine host, produces a more virulent attack, and thus insures its more rapid elimination from the system of the animal affected.

The alteration of the pathogenic properties of bacteria by environment, is probably the reason why in some outbreaks, and particularly in towns, this affection takes the form of Pink-Eye. As you all know the essential difference between Pink-Eye and Influenza is that the blood in the one case shows an abnormal tendency to coagulation, and in the other there is a decrease in its fibrinous constituents. This, I am of opinion, is not due to any essential differences in these affections so much as to the tissues involved. In Influenza we have the inflammation existing in a mucous membrane, the products of the disease being thus readily excreted from the vascular system; but in Pink Eye the inflammation taking place in the fibro-cellular tissue, the products thereof cannot be directly excreted, but becoming absorbed into the blood, give rise to that exceedingly fibrinous condition which is so characteristic of the disease. In an outbreak of this affection which came under my notice three years ago, I observed that where the muco-enteritis was most severe the animals soon completely recovered; but in those cases where the products of the disease were excreted by the ordinary channels without any particular organ becoming affected, the blood long retained its fibrinous character, and after apparent recovery two cases died from fibrous coagula within the cardiac walls.

The symptoms of this affection being so well known to all of us, it would be a waste of your time were I to enter into a full description of them. The symptom which is present in all cases, sometimes for several days it appears to be the only definite one in rise and temperature. This in the height of an attack may reach 107° F., though I have very seldom found it so high as this. In ordinary cases it generally declines from this to the normal standard, but in a case which I treated last autumn, where the discharge was very profuse, and the animal in consequence much debilitated, the temperature gradually fell, until on the twelfth day it was 97·5° F., which is the lowest I have ever seen in the horse. Those cases in which the affection extends to the bronchial mucous membrane are generally a source of grave anxiety to the practitioner, as on account of the great debility generally present, the animal is unable to cough with sufficient force to eject the mucus accumulated in the smaller bronchii. If the inflammation is extensive, the degeneration of this mucus gives rise to a considerable amount of pneumonia, and generally terminates in the death of the patient from asphyxia and septic poisoning. The affections of the abdominal viscera in this disease do not need any special mention, as the characteristic symptoms of hepatic and abdominal inilation are always present when they are affected, and are very diagnostic. A symptom which though not serious in itself often appears so to our clients, is œdema of the sheath and abdomen, this may be very extensive before causing the animal any inconvenience, but if there appears to be any difficulty in micturition, it is advisable to lance freely, and to apply fomentations of warm water, when the swelling rapidly declines. In a case of this description which was under my care some time ago, though there was much debility, the œdema of the of the sheath was not unusually great, yet the animal on drawing his penis to micturate during the night was unable to retract it, and was found in the morning with a penis five times its normal size, and appearing to be in great pain. The dropsical condition of the sheath had entirely disappeared. This appeared to me to be a serious complication, taking into consideration the state of the animal's system, On my arrival I inserted a catheter, when a large quantity of urine escaped. I left in the catheter, and attaching a tape to the end of it, thus suspended the penis from the animal's loins. I applied fomentations and lanced with an ordinary straight suture needle to avoid causing much irritation, the swelling gradually subsided, but the Paraphymosis did not disappear till the eighth day from its first appearance, and as

the animal had been standing all this time, its condition at the end of it was by no means enviable. He soon, however, completely recovered.

In the treatment of Influenza we must observe as first principles: 1. That as the disease in all its forms is highly contagious, we may do much to shorten an outbreak by removing at the commencement the healthy from the affected animal or animals. This, of course, is not always practicable, but should always be carried out when possible. 2. That as the disease runs a definite course, with a tendency under favourable conditions to recovery, it is useless to attempt to cut short an attack; but every care should be taken the hygienic conditions surrounding the patients are as perfect as possible. The abortive treatment of Catarrh which is successfully practised in human medicine, is not applicable to our patients in ordinary practice, as there are very few places where appliances for giving hot baths to horses exist, and the risk of a subsequent unfavourable reaction would be very great. In ordinary cases I always administer sulphate of magnesia in the drinking water, as I consider it much superior as a febrifuge in these cases to chlorate or nitrate of potash, which are apt to set up renal irritation and further increase the debility of the patient. Inhalations of steam may be given medicated with camphor or carbolic acid, the latter should always be used if the odour of the nasal discharge is at all offensive. In cases where the nostrils and pharynx seem blocked with mucus I have found great benefit to result from setting fire to a little sulphur about a yard or so from the animal's head; this should always be done in the open air, and the gentle irritation thus produced will often give the patient much relief, without producing any distress. It is very seldom that the inflammation of the pharynx is so severe as to interfere seriously with respiration, but when this does occur I would recommend every means to relieve the dyspnœa being tried before tracheotomy is resorted to, as the dibility of the patient, and the amount of effete material in the blood often renders what is generally a very simple wound a matter of considerable anxiety to the practitioner. In one case where I performed the operation, though every care was taken antiseptically, yet a large piece of the skin and fibrous tissue in front of the trachea sloughed away, the wound healed slowly, and altogether the case was very unsatisfactory. In cases where the abdominal mucous membrane is affected, I always administer Ol Lini, with nitrous ether; care must be taken in these cases that the patient is kept warm and has nothing colder than blood heat to drink, as super-purgation is very easily induced, a considerable amount of purgation can take place, however, without the patient being injured.

Influenza very seldom leaves any ill effects if the animals are in favourable sanitary conditions. When the larynx has been affected there is generally for some time an amount of thickening of the mucous membrane, giving rise to whistling when the animal is moved rapidly. This as a rule gradually diminishes if the larynx is not overstrained before its condition becomes normal. I have found a blister of hyd. biniod very useful in removing this deposit. Some amount of constitutional debility may remain for a short time after the patient has recovered from the febrile condition, but this can usually be overcome by attention to diet and the administration of vegetable tonics, with sulphate of iron.

In those cases where the ventilation and drainage are imperfect the formation of abscesses in the tissues is by no means uncommon, and this condition of things may also give rise to Purpina or Rheumatism. I have, however, seen this latter complication arise without any perceptible cause, except, perhaps, the constitutional tendency in that direction of the animal affected. Nothing can be more annoying to a practitioner than to find a case which he has thought on the high road to recovery, all the symptoms subsiding, some

fine morning standing on three legs, with a hot and painful swelling of the suspended member. A very severe case of this description occurred in my practice last spring. Influenza broke out amongst a lot of young farm horses, but appeared to be gradually declining in virulence. When I called to see them for what I intended to be the last time I was much surprised to see one of them presenting all the symptoms of Acute Laminitis. I had him brought out from the straw-yard in which he was running on to a hard road, when I saw that he progressed entirely on the toes of his fore-feet, throwing as much weight as possible on his hind limbs, as in Laminitis. There was an extensive swelling surrounding the back tendons of each leg, and a great amount of constitutional disturbance. I applied fomentations and stimulating liniment, with antacids internally, and the swelling in the off-leg soon disappeared; that in the near one, however, transferred itself to the coronel, where a large abscess formed, which, on being lanced, effused a large quantity of blood and serum, a quittor-like cavity was left, which, with the swelling surrounding it, required several blisters before the limb assumed its normal dimensions, the animal being altogether more than three months under treatment.

In dealing with a subject so extensive as Influenza, I cannot pretend to have more than introduced its various phases. To treat any part of the subject at all fully would take a much longer time than I should care to impose on your patience. I can only thank you for the kindness and attention with which you have listened to me. I hope that the discussion, in which we shall hear the experience of many esteemed practitioners, will atone for the shortcomings which I cannot but feel must abound in a paper so fragmentary as this.

Mr. R. MACKINDER: I should like to ask whether it was an entire horse in which the penis was distended?

Mr. ROBINSON: No; if so he would have died, probably.

Mr. MACKINDER: I have seen it in an entire horse.

Mr. ROBINSON: This was a gelding.

Mr. MACKINDER: I have seen it in an entire horse, and I find the best remedy in that case is to suspend the penis in a sheep-skin. I remember a case at Wisbech, in which it went down suddenly under that treatment when it was considered to be a hopeless case. He did not make such a good recovery as he would if attended earlier, however. I think it advisable in all cases to use a sheepskin.

Mr. DICKENSON: With regard to the cause of Influenza, from an experience of ten years, I take it that the morbific matter is always present in every member of the equine race which, in certain conditions, is capable of producing this disease, so called Influenza. This is exemplified by the fact that if you take a horse out of a field and put him in a warm stable, you get Influenza developed quicker than in other circumstances. In the cases of horses coming from fairs, the dealers in my district, instead of putting them in the stables on an outbreak of Influenza, turn them loose in the fields, and unless they buy a horse with it—and they are very careful not to do so—Influenza is almost unknown among their horses. It is with the horse as with man. A man can leave a hot room, if you notice, twenty times, and go into the outside atmosphere without taking cold, but on going out of the cold into a hot room you invariably suffer from catarrh, that is, in those who are subject to it. In my case, for instance, if I go from the cold into a hot room, I commence to sneeze, and generally suffer from three or four days' nasal trouble. I think the poison is always ready in the horse as in the man to be developed under a certain condition, and that is the elevation of temperature. A horse will stand a lowering of temperature much better than a transition from cold to heat.

Captain RUSSELL: I must say we have had a very able paper upon the

pathology and etiology of Influenza; and perhaps we all meet much of it in the course of twelve months. During the last winter we at Grantham have been remarkably free from it. I don't know if it has been so throughout the country. But notwithstanding the large amount of Influenza amongst human subjects, we have been almost free from it, simply having a case here and there. I got a letter from the Board of Agriculture the other day, as I have no doubt other gentlemen did, asking me the cause of outbreaks, and I had to give them that reply. Why it should have been the case I am hardly in a position to say, for the past winter has been one in which you would have expected animals to be very susceptible, the changes of temperature being very great. I have been very glad indeed to listen to so able a paper from so young a member—if he will allow me to say so—because it occurs to me he has availed himself of the opportunities for study which he had at the Veterinary College, and I am strongly of opinion that as time goes on, if he continues in the manner he has done, he will become a very able practitioner, in this neighbourhood, and one we shall all be very glad to consult with. Very little has been said about the treatment of Influenza, because, I suppose, we are not all in the habit of treating it in the same way. For lowering the temperature I use salicilicate of soda in half-ounce doses, which will reduce it in three or four hours. I have derived benefit from it myself, and followed by quinine it is very beneficial.

Mr. GRESSWELL: We have had very little Influenza in the Peterboro' district since about November. We had several cases in November on three different farms, and in one case it was very much like Pink-eye, and one out of four horses attacked died. In one case yellowness of the membranes was one of the symptoms, and another was Catarrh, a kind of Pink-eye—Catarrhal Fever it was really, but that easily succumbed to treatment. There was one case like Pink-eye that died out of the lot, disease of the lungs developing. I do not know any better treatment than that Mr. Robinson gives. Magnesia is very beneficial; nitrate of potash I don't think should be used. The treatment adopted in 1868 by Professor Pritchard was very good—magnesia with ginger, and Liq. Ammon Acet.

The PRESIDENT: I am very sorry Professor Pritchard did not arrive in time to hear the paper; but I hope he will give us some of his experience in the treatment of Influenza in London during the winter.

Prof. PRITCHARD: I can assure you, gentlemen, it was a great source of regret that I was not here, as it is that I am not able to speak on the points on which the essayist has no doubt dealt carefully and judicially with. I must congratulate him on the manner in which he has written his paper. In one of my earlier lectures I remember impressing the necessity of writing a good hand; but his lines should be further apart for anyone to read it quickly. With reference to the recent outbreak in London, I may tell you we have had a very great deal of it. It broke out in the latter part of November and the early part of December, and in a stud of 200 or 300 horses as many as one half of them became affected. In many instances it assumed a mild form, the animal being simply off its feed, and the temperature going up to 102, the countenance indicating that the animal was unwell; but beyond those symptoms—the pulse being elevated perhaps to 50 or 60—there was nothing to deal with. In other cases it assumed, in addition to those symptoms, the old-fashioned form—a sickly condition of the legs, muscles, and also of the eye-lids. In other cases, where it assumed a more serious character, the temperature ran up to 105 and 106, and even higher than that in some cases, and there were all the symptoms of a considerable amount of fever. In a very large number of cases if they were dealt with quickly they succumbed readily to treatment. I know, and probably it is known to some of you gentlemen, if not to all of you, that in some instances in the recent outbreak

the losses were very considerable. I know one stud where they had eighty horses on the Monday, and I think thirty-five of them went to the knacker's yard before the following Saturday night. But when these serious fatalities came to be inquired into, it was found in almost every instance that the animals had been worked one day, or given a long journey, after the symptoms had made their appearance, and in those cases so much time was lost, and the vitality of the animal became so reduced, that before treatment could be brought to bear they rapidly sank. But in other cases where the animals were stopped work directly the disease made its appearance, they succumbed to treatment, and treatment of a mild character. I am of opinion, and I have formed it on reliable grounds, that many horses were lost from over-doctoring. You may depend upon it in many cases of Influenza, the nursing is as important, or more so, than the medical treatment. Now what is the treatment to be pursued? From my experience, as far as London is concerned, it is of a very simple character. In many instances the only treatment required is the administration once daily of four ounces of sulphate of magnesia. If your animal can be drenched without inconvenience, then give him a little febrifugious medicine, such as nitric ether, night and morning. In either case a little thirst would cause them to drink this sulphate of magnesia—they take it in water—and in many instances that has been sufficient to bring about a recovery. I look upon sulphate of magnesia as one of the best febrifugious medicines we can give to the horse. I agree with what Captain Russell has said as to the agent he has used, but I do not think sulphate of magnesia ought to cry second to that. For the purpose of lowering the pulse I know of no medicine equal to it. In cases that assume a more serious form, where we have an interference with the respiration and the pulse running high, with a temperature of 105, I am an advocate for the administration of strong diffusible stimulants two or three times a day, consisting of one ounce nitrous ether, one ounce of aromatic spirit of ammonia, and ounce of Liq. Ammon Acet. Twice out of three times I would administer with it the four ounces of sulphate of magnesia. I am rather averse to getting rid of increased respiration by the application of hot water to the sides, and for several reasons. In the first place, unless you have the animal in your infirmary, and that does not often happen with us Londoners, who are rather short of space, or can depend greatly upon the assistance of the foreman or the man who may be in attendance on the horse, this application of warm water to the sides is not more than half properly carried out, and instead of his sides being kept hot the probability is that they will be colder than if let alone. What would you do then? In order to reduce the congested condition of the lungs I would have recourse to the application of mustard; but I am rather slow to have recourse to it, for in very many instances it so upsets the animal that it does more harm than good. In Messrs. Shoolbred's stud there were upwards of 100 cases, some of them very bad, and we were fortunate enough not to lose one, and that was due to the precautions we invariably take. The stud was very carefully watched, and not a single horse, I think, was sent out even on a short journey after the symptoms appeared. To no slight extent do I attribute the success of the cases to that very fact. I am at a loss to speak of anything else, for I know little or nothing of the paper; but there was one question submitted to me only this morning, and it is worthy of consideration. It is whether there is any chance of Influenza being communicated from the horse to the human subject. The question was asked me by Mr. Gresswell, of Louth, and from my own experience I said I did not think it could. It is a fact, no doubt, that the Influenza we have been suffering from in the human subject followed that of the horse, but I do not think there was any connection between one and the other. But Mr Gresswell stated his experience of an outbreak in his district, and said tha

not only did he suffer inconvenience from being with his horses, but all his pupils did also. It is a question for our consideration.

Captain RUSSEL: I am strongly of opinion that if we do not get the same disease in the human subject we get one similar to it. I could mention several cases, if I had my books here, where I have been called to outbreaks of Influenza, and I have not only been seized myself with a most severe form of a cold, but I have known the men in charge over and over again to be taken in the same way—a generally uncomfortable feeling throughout the whole system, aches in the muscles and bones, and anything but a desire to work.

The CHAIRMAN: I must join in thanking Mr. Robinson for his very excellent paper, but I have very little to add. I do not know whether it is owing to the elevated position in which I live—I mean geographically—but the fact remains that there has been very little Influenza in my practice, though I am sorry to say, I have had plenty in the house. I do not know if Influenza can be communicated from the animal to man, but I have noticed several men suffering from a cold of a severe form or Influenza as in the horse at the same time. The whole of the men in the service of Mr. Fernie, master of the Billesdon hounds, have been affected, as well as the horses. As regards the treatment of Influenza, I can bear out what Mr. Robinson has said, generally, but I differ from him in the use of linseed oil. My experience is that if one practice should be kept out of the treatment it is the use of linseed oil. I not know if the essayist has tried specific remedies to stay the course of the disease, as it were. Doctors tell me that anti-pyrine and salicylate of soda is effective, while others swear by quinine. There is one thing I am very fond of—electuaries, and they not only have a specific effect but a local effect. Steaming with a solution of sanitas oil of eucalyptus is preferred by some, because it is cheap. It always has a very marked effect. In the debility following Influenza I and others have seen a marked effect following the administration of a solution of nitres acetic and tincture of nux vomica, while cod-liver oil and tincture of iodine of iron is very good, though expensive, but where the horses are valuable that is not the question.

Mr. GOOCH: As to the possibility of the disease being communicated from the horse to the human subject. I attended one or two horses on a farm and out of twenty-five men on the farm thirteen were laid up with a specific kind of Influenza. One of the waggoners attending to the horses was not affected, the other was for a week or ten days. I did not contract the disease, though I have had it since, when it was in the house. I do not think it can be communicated.

Captain RUSSELL: I do not mean to say the specific Influenza we have had this last winter is the one which affects the men in charge of the horses, but I think that they may contract a similar complaint from the emanations or issues given off from the animal.

A hearty vote of thanks having been accorded the reader of the paper,

Mr ROBINSON, in reply, said no doubt the virus was in the atmosphere, as he had said, ready to invade the tissues when they formed a fit pabulum for it, and it no doubt required a high temperature to live, and they must always remember there was a great danger in placing horses in that temperature.

Captain RUSSELL called attention to a new instrument he had made for use in cases of Tympanitis. The flank was, he said, hardly the proper place to tap a horse for the purpose of removing that tympany. He was one of the first to introduce a tube in the flank for the purpose of removing it, but he had never been satisfied with it. The instrument he had now made was twenty inches long and eight in diameter, and he inserted it in the intestines through the rectum, instead of puncturing the flank. By this means considerably more gas could be got out: he had found it, after a prolonged trial, very

satisfactory, and he thought when it was known it would come into general use.

On the motion of Mr. J. MACKINDER, seconded by Mr. GOOCH, a cordial vote of thanks was given to the retiring President, and the proceedings closed.

SOUTH DURHAM AND NORTH YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

A MEETING of this Association was held in the North Eastern Hotel, Darlington, on March 14th. John Nettelton, Esq., President, in the chair. There were also present Messrs. F. R. Stevens, Darlington; G. T. Pickering, York; W. Atkinson, Masham; W. E. Lawrence, Stockton-on-Tees; H. Snarry, York; H. Gelsthorpe, Darlington, and the Secretary.

Apologies for non-attendance were received from Messrs. W. H. Wood, Thirsk; W. J. Briggs, Darlington; and Fred Hood, West Auckland.

Two cases of fracture were brought forward by Mr. Pickering, who gave the history of them. Interesting cases were also related by other members present.

The discussion then commenced on Mr. Pickering's notes on Pupilage and Practice, which was adjourned from the last meeting. He first called attention to the great number of students entering the teaching schools, and also to the numbers of qualified men requiring situations as assistants, etc., and with a view to prevent overcrowding in the profession, and to raise its status, he advocated Compulsory Pupilage for not less than two years; stiffer Matriculation Examinations and uniformity of same; and increase of college fees. With regard to practice, he contended there should be more good feeling among the members of the profession in each district, that they should work harmoniously together and combine, in order to keep up professional charges. His opinion was that, as existing practitioners died off, there would arise more openings for members to practise, but it would require good practical men to fill their places. He also thought that there should be more consultations, particularly in cases that were not doing well, as they did no harm but good.

The members present were unanimously of opinion that the time had now arrived when Compulsory Pupilage should be enforced, and they passed a resolution only to vote for those candidates for Council who would support such a measure.

Mr. PICKERING having replied to the discussion, a vote of thanks was awarded him for having initiated it.

Mr. PICKERING was then called on to relate what took place at the meeting of the Yorkshire Veterinary Medical Association in Leeds on the Monday previous *re* Snarry's case, and it was decided to call a Special Meeting of this Association in a fortnight, in order to discuss the liability of veterinary surgeons in regard to the examination of horses as to soundness.

The SECRETARY then introduced the following paper for discussion:—

"IS THE MUZZLING OF DOGS NECESSARY FOR THE SUPPRESSION OR EXTINCTION OF RABIES?"

Mr. PRESIDENT AND GENTLEMEN,—I hope that you will not expect an elaborate paper from me this evening, as I have been called on at short notice to introduce a subject for discussion. In choosing this one, I have done so conscious of the amount of attention it has received from the general public, owing to the Muzzling Regulations having been in force for some time in many places. I also had an idea that it might raise a good discussion, as there seems to be considerable differences of opinion amongst members of our profession as to what are the best methods to adopt for the extinction of this dreadful disease. It is not my intention to deal with the symptoms of

Rabies as I believe that you are all well acquainted with them. The great importance of this disease arises from the fact, that the dog can communicate it to the human subject as well as its own species. It can also be conveyed to horses, cattle, sheep, deer, cats, wolves, foxes, rabbits, and guinea-pigs. At the outset I may say that I am not a believer in its spontaneous origin, but believe that it arises directly from inoculation or contagion, as by a bite, and the insertion of the virus in the wound made. I am also of opinion that it is not indigenous to this country, but is kept up by re-introduction from abroad. I regard the theory that has been advanced, that a dog wearing a muzzle might contract the disease from sores on the lips coming in contact with the saliva from a rabid animal, as a very remote possibility indeed. "Is the muzzling of dogs necessary for the suppression or extinction of Rabies?" Most assuredly I believe it is, but consider that the present orders in force do not go far enough. I should recommend that all dogs in the United Kingdom (no matter of what breed) should be muzzled for at least six months, and quarantine should be imposed on all dogs introduced from abroad. Commence muzzling from, say March 1st to August 31st, there would then be less hardship in the case of fox hounds and sporting dogs. What is the object of the muzzle? It prevents dogs from biting, and consequently stops the spread of the disease. I am unable to sympathise with much of the false sentiment displayed as to the bad effect of the muzzle on dogs. I knew a dog well that would come to have its muzzle put on if taken in hand by its owner. I love the dog as well as anyone, and believe that with a properly-fitted muzzle there is little or no inconvenience after it has become accustomed to its use. Even if it did cause some inconvenience, I should feel inclined to try it and stamp out the disease, if possible. Filing down the teeth has been recommended as a means to that end, but it can be dismissed as impracticable. Inoculation of all the dogs in the United Kingdom with modified virus after M. Pasteur's system might be tried, but am afraid of the expense of such an experiment as well as the opposition from dog owners. There would also be the risk of sound animals taking the disease from the inoculations. The tally or tag has been advocated for dealing with this disease, but I have no faith in its use for that object. I believe that it would be useful in another way which I will explain further on. The tally has been recommended to be attached to all dogs, so that the owner can be traced. But suppose a dog went rabid and was destroyed, and the owner found, what advantage would it be in the case of the other animals or persons that had been bitten during its mad career? The tag would be of great use with a view to assist the Inland Revenue authorities in the collection of the Dog Tax, and it would be the means of reducing the number of ownerless or stray dogs, particularly in large towns and in the Metropolis. With your permission I should like to give some information as to the use of the tag, gained when in Canada, in the city of Toronto, in 1886. When a person there wishes to license a dog, he proceeds to the License Inspector's Office, where he has to furnish particulars as to the breed, age, and sex of the animal, and whether it is a large or a small one, together with the name and address of the owner, which are recorded on the license granted and on the counterfoil. Having paid the tax, which is one dollar for a dog and two dollars for a bitch or slut, he is furnished with the license and an envelope containing a large or small tag (according to the size of the dog), and a rivet by which it must be attached to a collar to be worn by the animal. (The two tags issued in 1885 were on the table for members to see.) Some little time after the licenses are granted, or should have been taken out, the authorities send out the dog-catchers, who are furnished with nets and a cart for the purpose. Dogs, when caught, having tags affixed are liberated, others are dropped into the cart and conveyed to a place where

they are kept for some days, when, if not claimed, a fine paid, and the license taken out, they are destroyed. This, in my opinion, is a system that could be carried out with advantage in this country, as the police seeing a dog in the street, not wearing a tag, could track him home, then give information at the License Office, and proceedings could be instituted against the offender. You will have also noticed that the tax is double for a bitch; this tends to discourage the breeding of useless animals, of which I am sorry to say we have too great a number. If asked what means I should adopt for the extinction of this disease, I should first order that all dogs in England, Scotland, and Ireland should be properly muzzled for a minimum period of six months, or a maximum of twelve months. All rabid animals to be destroyed, together with those that have been bitten by such rabid animals. Those bitten by suspected animals to be kept under observation for some time until all danger is past. Impose heavy penalties upon persons disregarding the orders in force. Dogs caught not wearing a muzzle to be detained for a few days, when, if not claimed, and the fines, etc., paid, to be destroyed. Tags to be issued when the dog license is paid, and should make it penal for the owner if his dog was found without one, unless he could satisfy the authorities that his license was paid. Impose quarantine on all dogs coming into this country from abroad. The symptoms of Rabies should be printed on the back of the dog license, and the two forms in which it appears clearly laid down for the guidance of the general public, but with strict orders that a veterinary surgeon be called in any case of a suspicious character. In conclusion, I hope that you will all favour us with your views on the subject, and that a good discussion will be the result. I am afraid that I have treated the subject in a fragmentary manner, but the time at my disposal has been very limited.

A good discussion followed; all the members present expressed their opinion that Rabies is not of spontaneous origin, and a vote of thanks was accorded to the Secretary for his paper. W. AWDE, *Hon. Secretary.*

MONTREAL VETERINARY COLLEGE.

A MEETING of the graduates of the old Montreal Veterinary college, now the faculty of Comparative Medicine and Veterinary Science of McGill University, was held on February 26th in the Veterinary College, for the purpose of forming an alumni association. Dr. D. McEachran, dean of the faculty, occupied the chair, and amongst those present were Messrs. W. Bryden, of Boston; C. C. Lyford, of Minneapolis; F. Millar, of Burlington, Vt.; F. Munro, of Lancaster, Ont.; N. C. Hinckley, of Buffalo; F. Ball, of Stanstead; F. Craig, of Cornwall; M. Dawes, of St. Annes; C. Dyer, of Sutton, Que.; J. N. Parker, O. Fortin, H. Smith, Prof. Mills, Dr. Johnson, M. C. Baker, C. McEachran, of Montreal; and A. W. Harris, of Ottawa.

THE INAUGURAL ADDRESS.

After reading of the minutes of the committee, named last year for the purpose of taking the necessary steps for the formation of such an association had been read,

Dr. D. MCEACHRAN delivered the inaugural address. He said: In the name of your Alma Mater I bid you welcome once again. It is many years now since some who I see before me occupied seats on these benches as pupils of veterinary science. Many changes have occurred since then. Most of you have gone out into the world and have steadily fought the battle of life, leaning largely on your own exertions in utilizing the instructions received as alumni of your Alma Mater. It is with feelings of no ordinary gratification that I, as founder of the school, and occupying the responsible position of dean of the faculty, bid you welcome. When I see before me gentlemen whose careers I watched with interest and pride, men whom I have

known as hard-working students who went forth and by following upright, honourable careers have raised themselves to the foremost and most honourable positions in the profession—I say when I see such men return to join us in forming an alumni association, I cannot but feel a sense of pride and gratification, which I trust may be considered excusable.

It is to be regretted that many of our alumni are debarred from being present on account of the great distances intervening between their homes and here. Others have found it impossible to be present owing to pressure of business. I am not aware of one, however, who is not here on account of his not being able to afford to come, and I am happy to say that very few indeed are absent because they have become unworthy of being admitted as members of such an association. I presume it behoves me to say a few words to our sons who have been absent about Alma Mater. Well, gentlemen, in the first place I have to tell you what most of you know already, viz., that the old lady has changed her name, that, in fact, she has become one of the household of the great university of McGill, and henceforth will be known as the Faculty of Comparative Medicine and Veterinary Science. I must tell you, too, that "old McGill" is not going to leave you out in the cold, but with her usual liberality she intends to confer on all past graduates of the old Montreal Veterinary college who have acted up to the regulations (regulations which, by the way, were drawn up and asked for by this faculty) the degree of

Doctor of Veterinary Science (*D.V.S.*).

I trust, gentlemen, that few will be found unworthy of receiving that degree, but I feel certain that you will endorse the sentiments of the faculty and university in desiring to keep out unworthy men, and in doing everything in their power to elevate and maintain the science of veterinary medicine to the same level as the other faculties of the great Canadian university which has honoured us by making us part of it. Had I been asked how this could best be accomplished, I would have said: McGill will be responsible for the future. We are responsible for the past. Let us bring the boys together again that we may discuss the matter. I can trust to them to do what is right. What better step could be taken than the formation of an alumni association. As there are several papers to be read by gentlemen who kindly volunteered to do so, I will not occupy your time, but I must embrace this opportunity of impressing on you your great privileges and your equally great responsibilities as members of this profession. It is your privilege to belong to a profession which is the most comprehensive of all the liberal professions. No other profession requires so much general knowledge, or imposes on its students so much special study. The study of comparative medicine and veterinary science covers all the field of medical science except one branch—human medicine. In the study of your profession, gentlemen, you have great opportunities which the student of human medicine does not enjoy—you can study your various patients, embracing all the lower animals, alive or dead, in every conceivable manner, which is forbidden the student of human medicine to do. In fact it is your subjects that are resorted to by the physiologist, histologist, and the therapeutist for investigation and experiment, aye, and in many matters the pathologist, too, joins your class to investigate disease; for it is well known that few opportunities are afforded investigators for prosecuting these investigations and conducting experiments on human beings. In this respect, therefore, you enjoy great advantages and opportunities. You enjoy great advantages, too, in being always enabled to hold *post-mortem* examinations on all fatal cases, and thereby to school yourselves in diagnosis of disease by correcting errors from actual observation. Again, owing to the fact that this profession, which occupied a respectable scientific position side by side with human medicine, both being practised in

many cases by the most eminent men conjointly hundreds of years before Christ, having during the long gloomy period of the world's history known as "the dark ages" been consigned to oblivion, and followed only by the most ignorant of men. It was relegated to the farrier, who, like the barber in human medicine, became the embodiment of all that was crude and cruel in the treatment of ailments in animals. It was one of the last, if not the last, of the sciences to emerge from the pit of darkness in which it had so long lain—no wonder that it has taken centuries to throw off the odium which the other practices and ignorant customs of these rude farriers had surrounded it with.

Is the diamond less pure because it has lain hidden in the slimy bottom of a stagnant pool? Certainly not. The latter part of the last century, and from then till now, witnessed the gradual emergence of veterinary science from its shroud of ignorance and superstition.

How slow its progress has been in English-speaking countries you are all aware; while for nearly a century France, and following her Germany, has recognised the value and importance of comparative medicine, and liberal grants of public money have been given for its encouragement and promotion, and honours and emoluments have been bestowed on its professors. The most eminent scientists of both countries, as well as those of Russia, Italy, and other continental countries, have been the most active workers in resuscitating the suspended animation of the submerged science. Need I do more then mention the names of Bouley, Chauveau, Pasteur, Virchow, Koch, Kohn, and many others who are now working on the investigation of animal diseases, and by their discoveries, and as results of their investigations, have revolutioned the whole science of medicine. In conservative, slow-moving England, notwithstanding that such men as John Hunter and Sir Astley Cooper, thought it not beneath them to devote a considerable part of their time to the study of disease in animals, and in the early part of this century several members of the medical profession relinquished the practice of human for comparative medicine, the progress made has been slow, and would have been slower still had it not been for the almost absolute ruin of the British farmer by Foot-and-Mouth disease, Pleuro-pneumonia and Rinderpest—diseases imported and spread owing to ignorance, costing millions of pounds sterling, touching the pockets severely of her land proprietors and legislators; then, and not till then, was it considered necessary to utilise the knowledge, imperfect and inefficient as it was, of the veterinary profession. In fact, it may be said truly, that it is only within fifty years that the veterinary art was raised in Britain to the rank of a science. We can thus readily understand how it is, that veterinary medicine has made but slow progress on this side of the Atlantic. In the neighbouring republic the progress made has been very slow indeed, and is yet, as compared with the wonderful strides made by all branches of arts and sciences in that great country, which may truly be said to be phenomenal. I need not refer to the position occupied in this new country thirty years ago. No such profession was known or thought of. We will, however, pass over the intervening years during which your Alma Mater has buffeted many a wave of adverse current and opposing tides, nor will we refer to how often when discouragement, almost overwhelming, nearly led to our resigning our task. The question of how it would affect our alumni always settled the point, and we fought on, and, gentlemen, we have the proud satisfaction of seeing the battle won—of seeing a profession which had no status in the country occupying a high position, respected and appreciated by the governments of the Dominion and the provinces for the services rendered to the country in protecting one of the most important commercial industries—her live stock—from foreign as well as internal disease and irreparable injury and loss. Not only so, but we have the great

satisfaction of the scientific aspect of the profession set beyond doubt by the recognition of it as such—by Canada's great University creating a faculty of comparative medicine and veterinary science; and it must be gratifying to you, as alumni of the Montreal Veterinary College, to see your Alma Mater honoured by the teachers being appointed the first professors of the new faculty. Let me add, in conclusion, gentlemen alumni, the new faculty feel their responsibility greatly. We feel that as our science is the most comprehensive, and commercially the most important, and as many of the diseases of animals are communicable to the human family, the alumni of this faculty are, and will be, more and more responsible for public health; our responsibilities are therefore very great. We therefore need and request the support and encouragement of the alumni. That support you can give in many ways—first and most particularly by your own proficiency in professional attainments, integrity and honesty of purpose, in upright, moral conduct, both privately and professionally, in gentlemanly bearing towards one other, and everyone you come in contact with, in adhering to the strict rules of

Professional Etiquette,

and in being beyond reproach in all things as should become honourable men and members of an honourable profession; bearing in mind that your profession can never disgrace you, but you may disgrace your profession. You can also aid us by sending us from time to time pathological specimens and reports of cases. Just think how many students might be benefited by even one morbid specimen—accompanied by a carefully recorded report of the case sent by each practitioner during the year, besides adding to the museum for future use. You can aid us by sending to the alumni library, for either new books or duplicates, from time to time; by recommending your Alma Mater to the right class of men, and advising the other kind to stay at home and do something else; and, lastly, you can aid us by contributing out of your own fortunes and inducing wealthy friends to consider the claims of your Alma Mater, whose usefulness is seriously lessened for want of funds, to endow chairs or other ways contribute to the support and development of the department of comparative medicine.

I trust, gentlemen, that the association formed to-day will have a very prosperous and successful career, that much individual and general benefit will accrue from our annual gatherings. The motto of the profession, *Vis Unita Fortior*, should always be borne in mind, and acting up to it let us be strong in our union. Let us feel that we each of us owe it to ourselves and our profession to put our shoulder to the wheel, and do our best to promote a fraternal feeling among one another, to encourage and assist one another, and thus your Alma Mater will stand well before the whole world backed up and supported by her alumni.

Election of Officers.

The constitution and by-laws were then presented and adopted, after which the following officers were elected:—Honorary president, Dr. D. McEachran; president, Mr. W. Bryden; first vice-president, Mr. C. C. Lyford; second vice-president, Mr. M. C. Baker; secretary-treasurer, Mr. A. W. Harris; council, Messrs. F. Munro, Charles McEachran, J. N. Parker and N. C. Hinckley.

Sir Wm. Dawson and Dr. Robert Craik were unanimously elected honorary members, and a vote of thanks was passed to the organisation committee, after which the meeting adjourned.

The D.V.S. Degree.

The following graduates of the Montreal Veterinary college have made personal application to the faculty for admission to the degree of doctor of veterinary science: Messrs. Williamson Bryden, V.S., Boston; C. C. Lyford, M.D., V.S., Minneapolis; N. P. Hinckley, V.S., Buffalo; M. Munro, V.S., Lancaster, Ont.; E. P. Ball, V.S., Stanstead; C. Dyer, V.S., Sutton; M. Dawes, V.S., St. Ann; A. W. Harris, V.S., Ottawa; — Craig, V.S., Cornwall; Prof. M. C. Baker, V.S., Montreal; Prof. C. McEachran, V.S., Montreal; John M. Parker, V.S, Montreal.

The following applications have been made by letter for the degree to be conferred without personal attendance: Messrs. Charles Ormond, V.S., Milwaukee; T. V. Daubigny, V.S., Montreal; James S. Harris, V.S., Dulnuth; G. P. Dillon, V.S., Toronto; Wm. B. Hall, V.S., Quebec; H. McWhinnie, V.S., Troy, N.Y.; E. D. C. Mindall, V.S., Brighton, N.H.; John A. Miller, V.S., DeKalb, Ill.; and Wm. Jakeman, V.S., Halifax.

Veterinary Medical Association.

The Veterinary Medical Association held its regular meeting in the evening, the president (Dr. D. McEachran, dean of the faculty) in the chair. There was a full attendance of members, among them being a large number of the past graduates of the college, who were present in the city attending the meetings of the alumni association.

Mr. SCANLAN communicated an interesting case of obstruction of the bowels in a horse, which terminated fatally. A very lively discussion followed, in which many curious causes of obstruction were reported by the visiting members, among them being bundles of wire and Georgia clay, the latter being used to adulterate food in some parts of New York state.

Mr. CROSSMAN read a paper, "The Feeding of Cattle," in which he described the nutritive properties contained in the various kinds of foods that are ordinarily given to cattle. He stated that a very great waste, as well as loss, was often caused to owners of stock by injudicious feeding; that the common practice of forcing cattle to leave their stalls when the thermometer was below zero, to drink water which was nearly at freezing point, was not only unnecessarily cruel, but also caused the owner to suffer loss. Cattle should not only be provided with good healthy food, but should also be given plenty of water at a temperature which could be drunk comfortably. He spoke of the experiments, in the matter of cattle food, which had been made at the various experimental stations in the States, and gave the results, on the latter of which he based his advice as to the proper mixture of food, taking milk as a perfect food for mammalian animals. He said that the food should contain as nearly as possible the nutritive qualities of milk in the same proportion as was found in that substance. The discussion which followed was taken part in by Professor Mills, Mr. Tremblay, and Mr. Ramsay, the first named gentleman pointing out that one of the chief objections to an acceptance of the results at experimental farms was that the subject was studied more in a chemical than a physiological sense; the animal was looked upon as a machine rather than a living creature. He considered that the results obtained would be much more satisfactory and reliable if physiology was more largely taken into account.

Dr. JOHNSON had some interesting pathological specimens of a tumour on the spinal cord of a dog, and another at the base of the brain. During life the animals presented peculiar symptoms, and the cases were diagnosed as incurable. The tumour on the spinal cord was particularly interesting, as it is a very rare disease, and this is the first case recorded where it has been discovered in a dog.

At the adjourned meeting a very interesting and instructive paper was read by Mr. Bryden, of Boston, on the horse's foot and its management in relation to its influence upon the ligaments and muscles of the limb. Another paper was read by Mr. Frank Millar, V.S., of Burlington, Vt., on an operation for the cure of "String Halt," practised and taught by Dickerhoff, of Berlin. Mr. A. W. Clements, V.S., of the Bureau of Animal Industries, Washington, contributed a valuable paper on veterinary education. All of these papers were followed by animated discussions, and it was resolved to reproduce the papers *in extenso* in the professional journals. Now, here is a resolution of weighty import. Coming from the source it does, it commands respectful attention from, if not the active co-operation of those mostly interested, the civic authorities. Perhaps the matter will be taken up with other measures promotive of the civic health now that the spring is so close upon us:—

Resolved—That we, the members of the alumni association of the faculty of comparative medicine and veterinary science, of McGill university, are of opinion that great danger to public health arises from the communication of animal diseases to the human family—especially from Tuberculosis, Actinomycosis in cattle, and other parasites in pigs and other animals, unless thorough inspection of all animals intended for food supply, before being killed, at the time of killing, and after being killed;

And we are also of the opinion that such inspection, unless properly conducted by trained men, who are not only thoroughly versed in animal diseases, but are experienced microscopists, and who are sufficiently paid to enable them to devote ample time to conduct the inspection thoroughly;

And from our knowledge of the facts we are of opinion that inspection, as now conducted in Montreal, is quite inadequate to prevent meat being sold which is unfit for human food.

We are further of opinion that great danger to public health arises from want of proper inspection of dairies and dairy cattle, as it is well known that milk of tuberculous cattle, when consumed uncooked by children and delicate persons, often produces consumption, and leads to a considerable percentage of mortality in the very classes who constantly consume milk for food.

The two latter paragraphs of the resolution are of great importance, and call for serious consideration on the part of those interested in the health of the city. The convention attached considerable significance to them as well as to the entire resolution, which was passed unanimously.

Prof. McEachran moved, seconded by Mr. M. P. Hinckley, that Prof. Mills be elected an honorary member of the association. It was carried.

The association closed its convention with the usual vote of thanks. All were more than well pleased with the result of their convention, the satisfactory character of which, it is said, augurs well for the future of the profession in the province. The interest displayed amounted to positive enthusiasm.

PATHOLOGICAL SOCIETY OF LONDON.

At the meeting of this Society held on March 4th, under the head of,

Carcinoma (? Duct Cancer) of all the Mammary Glands of a Cat,

Mr. Spencer showed the mammary glands of a cat, all being affected with Carcinoma. The hinder glands were most diseased, and their place was taken by tumours from 1.5 to 4 centimètres in diameter, composed mainly of caseous material, but with some solid undegenerated portions at the periphery. Extension had taken place by the lymphatics passing up in front of the sternum, which were to be felt as indurated cords. These ended in glands in the root of the neck and in the anterior mediastinum, which had likewise become caseous. The lungs were studded with glistening semitranslucent nodules from a pin-point to 2 millimètres in diameter, without any sign of degeneration.

Emboli had reached the lungs through the thoracic and right lymphatic ducts, and the pulmonary circulation. They had been arrested in the capilliaries of the pulmonary artery, and had not extended further. The disease, which looked to the naked eye like Tuberculosis, was found to be Carcinoma, resembling the human duct cancer. The degeneration in the mammary and lymphatic glands was seen in progress, and the shrivelled nuclei were still present after the cells had disappeared. The specimens came from an adult female cat which had an irritating discharge from the nipples. The nipples were swollen and prominent, and the skin over the surface was red and excoriated, but there was no ulceration on the surface, nor was the skin involved. Three microscopic specimens were shown from the mammæ, lymphatic glands, and lungs.

PROLAPSE OF PART OF THE WALL OF THE STOMACH INTO THE DUODENUM FROM A HORSE.

Mr. Spencer also read the following case: The cardiac end of the stomach had become inverted, and the inversion had extended across the cavity of the stomach into the duodenum. The prolapse beyond the pylorus formed a sausage-shaped mass about a foot in length, and nine inches in circumference. It consisted of all the coats of the stomach, much thickened by inflammation and congestion. In the recent state it was black from congestion, but actual gangrene had not begun, except where the prolapse was tightly constricted by the pylorus. The rest of the stomach was normal. This condition had not been noted, either in man or animals, either as a primary condition or secondary to a tumour polypus. It was produced by perverted peristaltic action, but the exceptional character of the condition precluded any conjectures as to why it had occurred. Whilst the horse's stomach did not differ materially from man's except by having an intra-abdominal œsophagus, the animal hardly ever vomited except when the stomach was ruptured. There had been no vomiting in this one. The specimen was taken from an aged pony, which was thought before death to be suffering from intestinal obstruction. It had been ill about a week. It could not swallow food or water, although it desired to do so. During the last three days it passed water several times, but no fæces.

HALF VERTEBRA IN A RABBIT.

At the meeting on March 18th, Mr. Bland Sutton showed a portion of the spinal column of a rabbit, in which there was half a vertebra between the second and third lumbar vetebræ. Several specimens of half vetebra in man had been described; but, excepting those and a half vertebra in a snake, this was the only specimen that had been found throughout the whole range of the vertebrata.

ROYAL AGRICULTURAL SOCIETY.

At the Council Meeting held on March 5th, Sir John Thorold (Chairman of the Veterinary Committee) reported that Professor BROWN had presented the following report:—

"*Pleuro-pneumonia.*—During the four months ending February 22nd, there were twenty-six fresh outbreaks of this disease reported in Great Britain. Fourteen of these were in England in the counties of Bucks, Chester, Cumberland, Lancaster, Middlesex, and York (West Riding); the twelve outbreaks in Scotland occurred in the counties of Aberdeen, Ayr, Edinburgh, Fife, Forfar, and Perth. The total number of cattle attacked was 175, of which seventy-nine were in England and ninety-six in Scotland. The number of healthy cattle slaughtered as having been exposed to infection was 355, of which 128 were in England, and 227 in Scotland. In Ireland, during the four weeks, ten fresh outbreaks of Pleuro-pneumonia were reported—nine of

them in North Dublin, and one in South Dublin; forty-two cattle were attacked, and 152 healthy cattle in contact with the disease were slaughtered.

"*Anthrax.*—In Great Britain there were seventeen fresh outbreaks of this disease reported in the four weeks. Sixteen of these occurred in England in the counties of Devon, Durham, Lancaster, Leicester, Lincoln (Lindsey), Norfolk, Northampton, Oxford, Somerset, Sussex (East), York (North Riding), and York (West Riding); the outbreak in Scotland took place in Forfarshire. The number of animals attacked with Anthrax was twenty-six; of these diseased animals one was killed and twenty-five died. No fresh outbreak of Anthrax occurred in Ireland during the four weeks, but two animals were attacked and died on the premises where the disease had previously existed. In three cases of outbreaks of Anthrax in Northamptonshire and one in Somerset, Professor Pemberthy, of the Royal Veterinary College, has carried out a system of protective inoculation. Altogether 165 cattle were inoculated in Northamptonshire, and thirty-five in Somerset. At the present time only one case of death has been recorded in the inoculated herds, and in this instance inoculation of rabbits with the blood of the dead animal did not produce Anthrax. The results are altogether satisfactory as far as they go, but no definite conclusion can at present be drawn, because outbreaks of Anthrax in this country commonly cease after the loss of one or two animals without the employment of any protective inoculation for the remainder.

"*Swine Fever.*—There were 201 fresh outbreaks of Swine Fever reported in Great Britain during the four weeks; 937 swine were attacked, 454 diseased pigs were killed, 405 died, ninety-three recovered, and 254 remained alive at the end of the week. In Ireland twenty fresh outbreaks were returned, and forty-six pigs were attacked.

"*Rabies.*—In England there were fourteen cases of Rabies in dogs during the four weeks. They occurred in the counties of Chester, Hants, Leicester, London, Surrey, and York (W.R.). In Ireland there were fourteen cases of Rabies, twelve in dogs, in the counties of Antrim, Carlow, Cork, Limerick, Londonderry, Queen's Co., Roscommon, and Wicklow; the other two cases were in cattle in Co. Cork.

"*Diseases in Cattle and Sheep in Derbyshire.*—Mr. W. Aulton, district veterinary surgeon, reports that Parturient Apoplexy (dropping after calving) has lately occurred almost daily among cows in his district; fifteen cases came under his observation in less than one week. The treatment adopted has been fairly successful, the recoveries amounting to sixty per cent. Mr. Aulton remarks on the serious effects of the sudden wintry weather on sheep and lambing ewes; numerous losses have resulted from Catarrhal Pneumonia with spinal disorder."

The Committee had considered the report of the sub-committee of the Conference on Horse-Shoeing appointed in December last, and the draft scheme for the examination and registration of farriers as shoeing smiths prepared by the Worshipful Company of Farriers, and amended by the representatives of the Worshipful Company; of the Royal College of Veterinary Surgeons; and of the Royal Agricultural Society of England. This scheme and the report of the sub-committee having been previously circulated amongst the members of the Council, it had, on the motion of Mr. Pell, seconded by Professor Axe, been resolved to recommend the adoption by the Council of the scheme as at present printed. The examiners on the diseases of animals of the farm, other than the horse, in the examinations for the diploma of the Royal College of Veterinary Surgeons held last year had reported that the following gentlemen have attained the greatest distinction:—

1. Mr. H. H. Millward, Mareham-le-Fen, Lincolnshire.
2. Mr. J. Gollege, Whaddon Grove, Trowbridge.

The Committee recommended that the Society's large medal be given in silver

to Mr. Millward, and in bronze to Mr. Golledge. They also recommended the payment to the Royal Veterinary College of the first quarterly instalment (£125) of the Society's grant of £500. Applications for appointment as the Society's provincial veterinary surgeons (1) from Mr. R. Roberts, of 30, Bridge Street, Wrexham, for the county of Flint, and (2) from Professor W. T. Wilson, of the Royal Agricultural College, Cirencester, for the county of Gloucester, in succession to Professor Almond, had been acceded to.

Jurisprudence.

In the Nisi Prius Court at Newcastle Assizes recently, before Mr. Justice Day, the case of Watson *v.* Snarry, in which great interest had been manifested in that district, was heard.

Mr. Waddy, Q.C., and Mr. Walton Q.C., instructed by Messrs. Dix and Warlow, Newcastle, were for the plaintiff; and Mr. Tindal Atkinson, Q.C., and Mr. Cyril Dodd, Q.C., instructed by Messrs. H. W. and R. Pearson, Malton, appeared for the defendant.

Plaintiff, who is a member of a firm of brass and iron-founders at High Bridge, and who lives at Kensington Terrace, Newcastle, sued defendant, a well-known veterinary surgeon at Norton, Malton, for £175 10s., damages for alleged negligence and unskilfulness in examining and passing as sound a horse which plaintiff alleged was unsound. The facts of the case are that plaintiff, on the 2nd December last, through his agent, Richard Gibson, of York, sent a telegram to defendant to go to Whinflower Hall, near Norton, and examine a bay gelding belonging to Mr. Charles Johnson. Defendant went and examined the horse, and sent a certificate, as directed by the telegram, to plaintiff, to the effect that to the best of his judgment the horse was sound, but that it had a bony enlargement on the near fore leg, and also a bony enlargement below the off hock, which he considered of no consequence. Plaintiff bought the horse of Mr. Johnson for £165, and it was delivered on the 5th December. Mr. Snarry was paid 30s. as his fee for examining the horse, and heard no more about it till on the 31st December he had a letter from plaintiff's solicitors threatening him with an action for negligence, and stating that the horse was unsound from a splint on the near fore leg, and Spavins on both hocks. This was followed immediately by an action against defendant, claiming damages as above stated. Mr. Snarry made application to the court to have the case removed for trial to York, on the ground that it was a Yorkshire case, arising entirely in Yorkshire. An order was made by the Master to remove the trial to York, but this was reversed on appeal to a judge, hence the trial at Newcastle.

Mr. Waddy said any man who undertook to perform a duty to another man practically warranted that he brought to it sufficient skill and also sufficient care and watchfulness to see that he did it right. Defendant held himself out to be a competent veterinary, and plaintiff, placing confidence in him as such, risked his money on his judgment, skill, and care, with the result, it was alleged, that it was proved that he either did not know what he was about, or did not exercise sufficient care. And plaintiff alleges that in consequence, he was saddled with a horse—perhaps he had better say burdened—of the most disastrous character. He bought a horse which was intended for a hunter, but which was scarcely fit for a cab horse, and the result was that plaintiff lost his money.

Plaintiff was called in support of his claim. His evidence was that he got the horse on the 5th December, that he exercised it himself for two or

three hours daily on the Newcastle Town Moor until the 15th December. He observed nothing wrong until the 15th December, when he rode it ten miles on the road to Harlow Hill. He then found it to go lame. He left it at a farm of Mr. Bell's there, to be schooled as a hunter. It was hunted the next day, the 16th, and went through a forty minutes' run. It pulled up dead lame after the run, and was taken to Mr. Bell's, where it remained till the 24th December, without being seen by any veterinary surgeon. It was then taken to Newcastle, to plaintiff's stables. On the 26th December, it was examined by plaintiff's veterinary surgeon, Mr. Elphick, and on the 30th by another Newcastle veterinary, Mr. Hunter. Both certified that the horse was lame from a splint on the near fore leg, which they considered must have been there at least two months. On the 20th January the horse was sent to Edinburgh, and examined by Professors Williams and Whalley at the Edinburgh Veterinary College, both of whom were called for plaintiff, and also gave their opinion that the splint was of old standing. All four "vets" stated that the horse was spavined on both hocks, and they considered they had been there twelve months.

Mr. Elphick admitted on cross-examination that the horse might get to go sound. Other evidence for plaintiff consisted of his groom, a friend, Mr. Bell, and his groom, and their evidence went to show that on the 15th and 16th December the horse became very lame. It was admitted that now the horse was suffering from an extensive enlargement on the knee of the near fore leg. The horse was produced and shown to the jury.

For the defence it was admitted that defendant was employed to give his opinion as to the soundness of the horse purchased by plaintiff. He pronounced it to be sound, with an enlargement below the off hock, and an enlargement below the knee on the near fore leg, which, to the best of his judgment, were of no consequence. The horse was not unsound when he examined it, and had no blemish or fault beyond those mentioned. If there were any unsoundness, it was not apparent at the time, and was such that the defendant could not by the exercise of ordinary diligence and skill as a veterinary surgeon have discovered it; and the failure to discover it, if there was failure, which was not admitted, was not negligence on the part of the defendant. He denied that the purchase of the animal was effected on his opinion or certificate, as alleged. He was neither asked to give, nor gave any opinion as to its being then fit to be hunted, nor was he informed that the plaintiff was considering the purchase of the horse for that purpose. Mr. Atkinson proceeded to state that that action meant one of two things—either that defendant had no skill as a veterinary surgeon, or that, in the examination of the horse in question, he had been guilty of carelessness. Defendant had been a veterinary surgeon forty-three years, and had been employed by Lord Middleton, the Earl of Feversham, Lord Carlisle, and John Scott, the trainer, in testing horses. If the defects spoken of were in existence on the 2nd December, they could not have escaped his notice. The horse was an Irish one. Irish horses had coarse hocks, and the animal in question had coarse hocks, and not Spavins. It was a young horse, and he suggested that the splint spoken of as having rendered the horse permanently unsound was caused by the work it did on reaching Newcastle.

The evidence for the defence was that the horse had been bought by Mr. Charles Johnson at Horncastle Fair on the 13th August. It was an Irish horse, with coarse hocks, and was passed to Mr. Johnson as sound by Mr. Howse, of Lincoln, a well-known veterinary surgeon. Mr. Johnson had the horse in his possession, and trained and schooled it as a hunter from the 13th August to the 5th December, and it was never lame during that time. The horse left Malton on the 5th December, sound and free from blemish beyond what was mentioned. Defendant gave evidence himself in support of this,

and also called Charles Johnson, Joseph Johnson, Walter Tinsley, a groom, Thomas Bruckshaw, the well-known jockey, Foord P. Newton, horse dealer, and John Robert Wilson, of Settrington, all of whom stated that on the 5th December the horse was perfectly sound and free from the blemishes complained of. Defendant's case was also supported by the evidence of the following veterinary surgeons: Messrs. Thomas Bowman, of Driffield; J. M. Axe, of Doncaster; J. R. Peele, of Durham; and Howse, of Lincoln. The latter had examined it in August, and all of them had examined it at Newcastle on the 7th of February, and again on the morning of the trial. They all confirmed defendant's statement that the enlargement on the near fore leg was a splint, and a sprain of recent origin, and they stated that they had seen in their experience greater enlargements of the same character thrown out in from seven to twelve days; that it was not only possible, but almost certain that this enlargement had been acquired and thrown out after the horse left Malton; and as to the Spavins, they totally denied the existence of them at the present time, stating that the horse was free in his hock action, and merely had coarse hocks, like many Irish horses.

The Judge summed up greatly in favour of plaintiff, and the result of the trial was that the Northumberland jury found a verdict for plaintiff. By arrangement the damages were placed at £170, Mr. Snarry to have the horse. His lordship gave judgment accordingly, with costs against the defendant.

Army Veterinary Department.

Gazette, March 4th.

Frederick Charles Stratton, Gent., to be Veterinary Surgeon on probation, vice Veterinary Surgeon T. A. Mitchell, deceased.

ARTILLERY VOLUNTEER CORPS, THE HIGHLAND.—David Thomson, Gent., to be Veterinary Surgeon.

Gazette, March 14th.

WHITEHALL.—The Queen has been pleased to give and grant unto Middleton Frederick Mallett Case, Esq., Senior Veterinary Surgeon attached to her Majesty's Forces in Egypt, her Royal licence and authority that he may accept and wear the Insignia of the Order of the Medjidieh of the Third Class, which his Highness the Khedive of Egypt, authorised by his Imperial Majesty the Sultan, has been pleased to confer upon him, in recognition of his services while actually and entirely employed beyond her Majesty's dominions at the action of Gemaizah on December 20th, 1888.

YEOMANRY CAVALRY, STAFFORDSHIRE (QUEEN'S OWN ROYAL REGIMENT).—Veterinary Surgeon R. P. Cooper resigns his commission. George Henry Watkins, Gent., to be Veterinary Surgeon.

ARTILLERY VOLUNTEER CORPS, 2ND DURHAM (SEAHAM).—George Farrow, junr., Gent., to be Veterinary Surgeon.

Parliamentary Intelligence.

House of Commons, February 24th.

CONTAGIOUS PLEURO-PNEUMONIA.

Dr. FARQUHARSON asked the Minister of Agriculture whether it was the intention of the Government to establish an experimental station where the exact nature of Pleuro-pneumonia could be ascertained and conditions established under which inoculation could be scientifically carried out; and failing

this, whether they would contribute to the expenses of any local authority which would undertake to carry out these experiments.

Mr. CHAPLIN said he was advised that experiments had been carried on for years in this country and abroad with the object of discovering the microbe of the disease, but hitherto without any satisfactory result. This inquiry was still being continued at the Royal Veterinary College, London. The annual report of the Veterinary Department would contain a statement of all that had been done on this subject by scientists up to the present time. It was being prepared, and, having regard to this fact and to the conflicting evidence given before the Departmental Committee which was appointed to inquire into Pleuro-pneumonia and Tuberculosis in 1888, it appeared desirable to wait for the statement which he had referred to before any further steps were taken.

February 25th.

RABIES.

Mr. CHAPLIN, in answer to Mr. ROUND, stated that no case of Rabies had been reported to the Board during the last year from North-East Essex. Cases, however, had occurred at no great distance from the border of the division, and other cases had also been reported from other parts of the county, making in all a total of twelve cases in 1889. He hoped it might not be necessary to continue the dog-muzzling order in Essex for any lengthened period of time, but he was advised that it would not be desirable to relax the restriction at present.

March 21st.

TUBERCULOSIS IN CATTLE.

Mr. KNOWLES called attention to the subject of Tuberculosis in cattle, and to the expediency of scheduling that disease under the Contagious Diseases (Animals) Acts.

Dr. FARQUHARSON thought it was now clearly established that the disease was readily transmitted from beasts to man, and particularly through the medium of milk.

Mr. GRAY said it would be almost impossible to schedule this disease, as was done with Pleuro-pneumonia and the Foot-and-Mouth Disease. It was rather a question for the Department of Agriculture to obtain information upon.

Mr. M. STEWART supported the suggestion that the Board of Agriculture should endeavour to inform themselves as to whether there was any remedy for this disease.

Mr. CHAPLIN said the report of the Departmental Committee that sat on this subject last year gave a list of domestic animals in the order of their respective liability to the disease, and the animal first mentioned was man. It had been calculated from the statistics and registers of various countries that from 10 to 14 per cent. of the deaths of human beings were due to the poison of this disease, whereas among the cows slaughtered in Dublin under the slaughter order the year before last the percentage was only 4; in Great Britain it ranged from 3·5 to 37·5, and in Germany from 1·5 to 20. He regarded the question at present as a matter for inquiry and consideration. He exceedingly doubted the effect of any order against the disease. In the course of a few days he hoped to ask the House to sanction further legislation with regard to Pleuro-pneumonia, because he was confident that they might hope to extirpate that disease from the country; but there was no such hope in the case of Tuberculosis, as extirpation could only be accomplished by a universal slaughter of human beings as well as cattle. When the primary point as to the possibility of stamping out the disease had been decided he would be happy to receive a deputation on the subject of

Government interference, and till then he would lose no opportunity of endeavouring to obtain information.

Sir L. PLAYFAIR admitted that the time had scarcely arrived when cattle suffering from this disease should be scheduled; but he was not satisfied with the manner in which the Minister of Agriculture had spoken on the subject.

Mr. G. BALFOUR suggested that a deputation from all parties interested should wait on both the Minister of Agriculture and the President of the Local Government Board.

Mr. RITCHIE promised to consider this suggestion, and to confer with his right hon. friend (Mr. Chaplin) to see if such a deputation could be arranged for.

Obituary.

Mr. J. C. Bacon, M.R.C.V.S., of Brighton, who graduated in 1865, died on March 14th, aged 46 years.

Death has removed from our ranks one of the senior members. Hugh Ferguson, F.R.C.V.S., died at Fulham recently, at an advanced age, having graduated so long ago as 1836. He was also a graduate of the Alfort Veterinary School, and in his day was considered one of the notabilities of the veterinary profession in this country. Soon after leaving France he went to Dublin, where he delivered a course of lectures on Veterinary Anatomy and Theoretical and Practical Medicine. He had a very extensive practice in the Irish capital, and was well known throughout Ireland. During the invasion of the Cattle Plague, in 1865, he was appointed Veterinary Adviser to the Irish Privy Council, a position he held until recently, having also the supervision of the Veterinary Department under the Council. At an early period in his career he made several valuable contributions to veterinary literature, but for many years all his attention appears to have been devoted to his official duties.

The death has been reported of J. Keane, M.R.C.V.S., Charleville, County Cork, who graduated in 1864.

Notes and News.

MICROBE AND BACILLUS.—Bacillus, like bacterium, is properly the name of a distinct genus of Schizomycetes; but the two words are, in popular use, quite interchangeable. Micro-organism is the general word applied to all classes of these minute forms. Microbe, a French word meaning the same thing, is widely used, and was invented for the purpose of avoiding the dispute as to whether these low organisms were plants or animals. Colin, in 1853, by careful research, established the fact that bacteria are plants, and since then every discovery has confirmed his decision. They afterwards, however, were removed from the algæ and placed in the parallel class of fungi.

SCIENCE AND MONEY.—M. Pasteur figures in Europe in the character of a pure scientist, but in Australia, through his agents, Drs. Germont and Soir, he demands considerable sums for the use of his discoveries. With regard to vaccine for Anthrax, he is prepared to concede the monopoly to all the Australian Colonies, except New South Wales, for £30,000, and to the latter Colony for the sum of £28,000.

A NEW DISINFECTING-APPARATUS.—A new apparatus for the destruction of disease germs has been designed by Drs. Biggs and Prudden for the use of the disinfecting station of the Health Department of New York. It consists of a brick oven eight feet by six feet, and six feet in height, and having an

opening sufficiently large to admit clothes, bedding, etc. In the interior are coils of steam pipes, which are in connection with a boiler. During disinfection the clothes are prevented from being scorched by the steam pipes by wire netting. Passing from the top of the oven are two larger tubes, lined with felt, which open into a circular box containing a fan which can be made to revolve with great speed. Having placed the clothing in the oven, a constant blast of hot air, of a temperature sufficiently high to destroy germs, is sent in and is kept circulating in the oven by the revolutions of the fan. Owing to the movement of the air, the heat is made to penetrate every part of the fabrics, and thus thorough disinfection is ensured. It is said the temperature of the oven can be raised to 212° F.

TRAMWAY HORSES.—A recently issued parliamentary return gives the number of horses in possession of the street and road tramway companies, in the United Kingdom, for the year ending June 30th, 1888, at 25,832, and for the same period ending June 1889, 27,060—an increase of 1,228.

THE INTRODUCTION OF VETERINARY SURGEONS INTO THE BRITISH ARMY.—The London *Live Stock Journal* says: "Turning up an odd number of an old work, dated 1796, the other day, at the British Museum, we came upon a little paragraph which was of more then passing interest. We give it as it stands:—'Veterinary Surgeons for the Calvary.—It is intended by Government to attach a veterinary surgeon to each regiment of cavalry; and as an inducement for medical gentlemen to pursue the veterinary art, it is liberally proposed to make them commissioned officers, and to give them seven shillings per diem, and in order to prevent any but properly qualified veterinary surgeons from receiving these appointments, no pupil from the veterinary college can be engaged for the army without obtaining a diploma signed by the medical committee and the professor.'—To our minds, nowadays, there is such a sound common-sense ring about this that we cannot imagine any man would ever hold up his hand against it. And yet there were those who did so. Indeed every raw soldier caught by the recruiting sergeant at a country feeing fair, as soon as he had earned his stripes, thought he was much better qualified to examine horses than the army doctor, or any other practitioner. The medical art did not then, of course, stand very high, and indeed the paragraph alluded to seems to have been the preface to the history of veterinary service so far as Great Britain is concerned, farriers being then as rude in their practice and as mysterious as the Wayland Smith in 'Kenilworth.'"

Correspondence.

TUBERCULOSIS, COMPARATIVE AND SPECIAL.

SIR,—In a letter which appeared under another heading in the February number of the VETERINARY JOURNAL, I attempted to show that the medical profession of England "absorbed much and admitted little," even in matters outside their special sphere; for they are not usually in the habit of crediting veterinary authors with any distinction when writing upon subjects essentially veterinary.

This is shown in a special manner in an editorial to be found in *The British Medical Journal* for February 22nd, 1890, where an elaborate expression of opinion is given on the *Comptes Rendus et Memoires du Congres pour l'Etude de la Tuberculose chez l'Homme et chez les Animaux*, first series, 1888. Some interesting information is also given regarding the aims of such congresses, and the work done by those who have thus far taken part in them, and who were chiefly instrumental in promoting nearly all the knowledge of Tuberculosis we possess now. The names of the latter, we note, have been liberally

quoted, which I may here give in rotation, viz.: *Chauveau*, *Morgagni*, *Davaine*, Villemin, *Toussaint*, Koch, Verneuil, *Nocard*, *Arloing*, *Bang*, *Galtier*, *Baillet*, *Veyssiere*, and *Toma*.

With all but three names in the above list I am already acquainted, through veterinary literature, as being those of leading veterinarians, and the president of the Congrès, M. Chauveau, we have known too long to forget that he is the master-veterinarian of France.

I may quote a passage from the editorial in *The British Medical Journal* above mentioned, which says:—"Any one working at the subject of Tuberculosis will save himself enormous labour and will receive most valuable help from a careful study of the work of this Congrès on Tuberculosis, and those who were instrumental in organising the meeting must be congratulated on the admirable results obtained at this, the first of their sessions." Yet nowhere is this organisation indicated as at all a veterinary one, nor is the word "veterinary" used to show that the names quoted in the editorial are those of veterinary authorities in the main. This shows a discord and disunion between the medical and veterinary professions which should be prevented. F.R.C.V.S.

[It was a veterinary surgeon, M. Butel, who proposed the Congress, and moved energetically in having it assembled; while French and foreign veterinarians formed perhaps the majority of the members composing it.—Ed. *V. J.*]

THE MICROSCOPE: ITS FUTURE PROMISE.

Sir,—The discoveries made in medical science during the last few years by the advanced scientists brings to view many mysterious truths, and gives to us magnificent ideas of what life is and on what it is dependent. The science of bacteriology seems to have taken deep hold of the minds of the leading men in the scientific world. This knowledge, and the vast importance of such knowledge, I think cannot be over-estimated. I wish them God speed in their investigations. While listening to the excellent address of Professor McFadyean on this subject, given before the members of the Midland Veterinary Medical Association at Birmingham, I could not resist a train of thought arising from some of the ideas he enunciated. It is now being satisfactorily proved and established that nearly every one of the great diseases that devastate the human family, and also those that affect our flocks and herds, are traceable to micro-organisms peculiar to each disease; that Anthrax is caused by the presence of the bacillus anthracis; that Tuberculosis is always accompanied by its special bacillus; that Pleuro-pneumonia and other contagious diseases has each its specific micro-organism existing in the system, and that these are entirely referable to these minute organisms, undermining the powers of various organs of the body and sapping the very vitals of life. Now as our knowledge of these mysterious causes of disease and death becomes wider and deeper, as the microscope becomes more perfected, and each bacillus becomes more accurately identified with each specific disease—with this increase of knowledge it becomes known whence they emanate; and we can diagnose the exact locality in the system in which they are congregating—whether in the blood, in the liver, in the lungs, in the spleen, in the capillaries, or whatever place the army of invasion has assembled; then, along with this increase of knowledge, we shall have gained the power to assist nature to sterilize and eject these organisms completely from the system; and therefore, when this cause of disease and death is removed, what shall prevent men from again attaining the age our ancestors reached before the Flood? Have we not the same constitution? I assume the heart performs the same functions; the brain, the lungs, the liver, and every other vital organ is the same. If we cannot attain 999 years, we may be content with 500 years; but even if we can only attain 250 years, what an enormous, what a

transcendent gain this would be! This world is large enough to support a thousand times its present population, and only let us try and realise the beautiful and magnificent idea of living this long and happy life without disease, and without pain or suffering. I may be called utopian or visionary, but I throw out the idea, not to the cavillers, but to those whose aim in life is to benefit their fellow men to their own light and opportunity.

THOMAS GREAVES, F.R.C.V.S.

LARGE CYSTIC CALCULUS.

SIR,—In the March number of your Journal, in Notes and News, Mr. A. Purdy speaks of a large cystic calculus weighing 4½ oz. He would like to hear of a larger one, if such there be. In answer to this I beg to state that I, with assistance, took one from a mare which weighed 11½ oz., and this day I have weighed it, and find it to be exactly 8½ oz. This case was recorded in the VETERINARY JOURNAL, volume 14, for 1882, page 248.

Hull, *March 5th.* JOHN FREEMAN, M.R.C.V.S.

STAMP DUTY ON MEDICINES.

SIR,—I think the time has arrived when something ought to be done respecting the sale of medicines for our domestic animals. All patent medicines recommended for human beings are compelled by law to bear the Government stamp, no matter whether they are for internal or external use; this, to some extent, not only checks the sale of those articles, which we can well afford to do without, but also adds to the revenue. Every country practitioner must see the enormous loss that is continually going on around him, through people who use those "cure-alls," waiting to see their effect. After using So-and-so's bottle until they see life ebbing fast, then they rush for the nearest veterinary surgeon, no matter what the hour may be; and on his arrival he finds the animal either dead or on the verge of death. They will not always even do this, for the testimonials are so plausible, that if their favourite nostrum will not cure they think it useless looking further.

The country practitioner's work is anything but a pleasant occupation, and certainly not a remunerative one. An old member of high standing told me the other day that his drug bills were becoming smaller every year, although his surgical and examining practice was as large as ever.

I am not of a grasping nature, but I think it only fair that I should have the smooth along with the rough, and not have to depend entirely for a living on getting up in the middle of the night, to go several miles to see an animal whose stomach is already gorged with medicines of every conceivable action.

Of course, this is where the shoe pinches, but to take a broader view of the matter, and endeavour to save the farmer from himself, or rather the preparation he uses, I think something might be done; for the loss of stock in England alone, from this cause, cannot be less than half-a-million annually. Besides all the medicine chests advertised, nearly every village in my district has its agents for the sale of someone's remedies—in some places, as many as two or three different firms are represented.

To check this broadcast sale of drugs, every bottle, box, tin, packet, or pot, should bear at least a threepenny or a sixpenny stamp—no matter whether put up by a veterinary surgeon or not—save in his own private practice. Do you not think, sir, if this matter was properly laid before the Chancellor of the Exchequer, he would endeavour to rectify this dangerous and growing evil?

I should be pleased to hear the opinion of some of my fellow-practitioners on this matter. J. NETTELTON.

Northallerton, *March 15th.*

[We quite agree with our correspondent, that the drugs referred to should be vended as patent medicines, and be taxed accordingly.—ED. *V.J.*]

THE *VETERINARY RECORD* AND ITS SAMPLE OF ENGLISH.

DEAR SIR,—We have some brilliant specimens of English scholars in the veterinary profession of England, to judge from some of the effusions that have lately appeared in the *Veterinary Record*. I am proud to know the fact; and I specially appreciate all "jokes" of Mr. Hunting that are free from slang. But I blush to accept his kindness when I am offered "space" in his columns without my asking. Such offers, Mr. Hunting should know, any respectable person could not but treat with the contempt they deserve; and I must ask him to make them to stablemen, by whom they will be better appreciated.

I have no pretensions to any literary skill, such as that claimed by Mr. Hunting, but I profess to be a veterinary surgeon, and one every whit as good as he. With all Mr. Hunting's qualifications as a veterinary surgeon, he lacks one thing sadly, namely, professional spirit. He is greatly mistaken when he thinks I am prejudiced against his journal, or that I bear him any personal ill-will, directly or indirectly; but it is his language, as editor of a journal, that I have much reason to resent. For instance, who that has read his leader of 1st February, 1890, can honestly say he has any sympathy in common with him for the utter want of decency and professional courtesy he shows when speaking of Dr. Fleming?

Speaking of "libel" in his censures now directed towards myself, I invite a comparison of my letter in the VETERINARY JOURNAL of March last, with Mr. Hunting's attack on Dr. Fleming found in the leader just mentioned.

Then Mr. Hunting writes: "*It is seldom any literary production of Mr. Burke's is so short*—we wish we could add so readable—but unfortunately his grammar and composition are even worse than usual, and force upon us the reflection that at the recent Fellowship Examination he must have been greatly relieved to find the Council had removed the representative of the College of Preceptors from the Board." This is an editor's language! How shall we translate it? That the "reflection" is Mr. Hunting's no one doubts; but whether it reflects personally on myself only, or it more immediately involves the conduct of the Board of examiners appointed by the Royal College of Veterinary Surgeons, who, according to Mr. Hunting's showing, are in the habit of casting their pearls before swine, I will not venture to say, but must leave for the consideration of those more seriously involved. May I here ask, by the way, what was the percentage of marks scored by Mr. Hunting at the Fellowship examination of the Royal College of Veterinary Surgeons?

Here we have a sample of Mr. Hunting's English "grammar, and composition," about which he speaks, namely: "It is seldom any literary production of Mr. Burke's is so short," etc.; and this sentence he considers "up to date," or, as we term it, modern English! When the preposition *of* is used here, we fail to see where the possessive expressed by an *apostrophe s* after my name comes in. But we have yet to learn something of Mr. Hunting's English. Nor am I the only subject of censure for writing broken English, according to the *Veterinary Record*; for we find in the same journal for March 15, 1890, page 484, that "two young veterinary professors" are accused by one of Mr. Hunting's correspondents of having had their "education sadly neglected"! I wonder who these unfortunate professors are?

Mr. Hunting started his letter by promising to point out errors in "grammar and composition," but terminates it by saying that my writing is "effeminate." I wonder what Mr. Hunting's definition of a bold style is? Good English, I take it, consists in the use of simple words and short sentences, and not complicated "whit" and stable slang.

A "Well-wisher" has entered, and with much reason, a *protest* with reference to a most "objectionable tone" apparent in the columns of the *Veterinary Record*, which is passed unheeded by the editor.

Mr. Hunting's attack, I venture to say, is directed here not alone against Dr. Fleming, nor against myself, but includes also the Board of examiners for the Fellowship degree of the Royal College of Veterinary Surgeons and the Council that appointed the latter.

Athlone, 17*th March*, 1890. R. W. BURKE, F.R.C.V.S., A.V.D.

[We are in a position to state that our correspondent passed a better all-round examination for the Fellowship degree, than his very clever, refined, and amusing critic did.—ED. *V. J.*]

AN IMPOSTOR.

SIR,—I enclose copy of a letter received from Mr. W. Kent, M.R.C.V.S., Gravesend, which I leave to explain itself. It occurred to me that the most effectual way of warning, and thus staying the scamp's progress would be through the medium of the professional journals, and, personally, I shall be glad, if you think it desirable, if you will give a notice of the matter in your next issue. Thanking you in anticipation.

Rotherham, *March* 19*th*. THOS. J. CAMPSALL, M.R.C.V.S.,E.

"Gravesend, *March* 17, 1890.—T. Campsall, Esq., Sir,—To-day I had a man call upon me representing himself as Thomas Campsall, V.S., late of Rotherham, but owing to ill-health he is in reduced circumstances. I referred to the register, and there found name as described. I gave him a little assistance, but after he had gone I thought he must be an impostor, and if so it was only right you should be aware of the fact, and so let members of the profession be on their guard.—Wm. Kent, M.R.C.V.S."

CORRECTION.

IN the appeal made on behalf of Mrs. Hall, in last month's Journal, it was stated that her husband had been in practice at Newcastle-on-Tyne; it should have been Stockton-on-Tees.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from J. A, Nunn, A.V.D., Lushai, India; J. Malcolm, Birmingham; R. W. Burke, A.V.D., Athlone; "Juste Milieu"; J. Freeman, Hull; F. C. Mahon, Southrepps; G. T. Pickering, York; F. L. Gooch, Stamford; Sir F. Fitzwygram, London; R. Rutherford, Edinburgh; F. Raymond, A.V.D., Woolwich; T. Greaves, Manchester; A. E. Macgillivray, Banff; J. Mills, A.V.D., Chatham; J. Nettleton, Northallerton; J. Armstrong, Penrith; A. W. Hill, London; J. B. Gresswell, Louth; W. Awde, Stockton-on-Tees; T. J. Campsall, Rotherham.

BOOKS AND PAMPHLETS: Encyklopädie der Gesammten Thierheilkunde und Thierzucht; *F. Boschetti*, Sul Progetto di Legge della Tutela dell' Igiene e Sanita Pubblica; Bulletin des Séances de la Société Nationale d'Agriculture; *J. Bland Sutton*, Evolution and Disease; *T. Walley*, A Practical Guide to Meat Inspection; *U. Smith*, The Country Roads of England.

JOURNALS, ETC.: *Oesterreichische Zeitschrift fur Wissenschaftliche Veterinärkunde; Quarterly Journal of Veterinary Science in India; Journal of the Agricultural Society of Victoria; Archiv fur Wissenschaftliche und Praktische Thierheilkunde; Thierarzt; Wochenschrift fur Thierheilkunde und Viehzucht; Echo Vétérinaire; John Hopkins Hospital Bulletin; Russian Archives of Veterinary Science; Annales de Méd. Vétérinaire; Hufschmied; American Veterinary Review; Recueil de Méd. Vétérinaire; Journal de Méd. Veterinaire et Zootechnie; Revue Veterinaire; Lancet; British Medical Journal; Live Stock Journal; Journal of Comparative Medicine and Veterinary Archives; Edinburgh Medical Journal; American Live Stock Journal; Journal of the Society of Arts; Clinica Veterinaria.*

NEWSPAPERS: *Scotsman; Drogheda Argus; Montreal Gazette; York Herald; South Eastern Gazette.*